UNIVERSITY OF PORTO

Faculty of Fine Arts (FBAUP)

Let's Play the Visual Trail:

A Framework for the Analysis of the *Mise-en-jeu*

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Dissertation submitted to the University of Porto in partial fulfilment of the requirements for the degree of Master in Image Design.

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Porto, 2018

Acknowledgements

I would like to express my sincerest gratitude, appreciation and a message of thanks to my dissertation advisors, Miguel Carvalhais and Pedro Cardoso, for providing valuable guidance, supervision, mentoring as well as encouragement for carrying out the research.

Special thanks to the academics of the Masters Degree in Image Design for providing me with various opportunities to enlarge my perspectives on the discipline and establishing this research.

I also wish to convey my sincere thanks to my family and friends for their life-long support. I'm especially grateful to my parents and brothers, for the strength and inspiration they provided throughout my life, to Isabel Costa for her constant personal support and for her help with the analysis of many of the case studies through many joint play sessions, to André Ribeiro and Carina Silva for their constant help with the construction of many graphical elements of this dissertation, and to Ana Pereira MSN for her contributions to the structure and revision of the dissertation standards.

The contributions of all the above have been very crucial in carrying out this research.

Abstract

As the field of videogame studies becomes more important in cultural studies, describing design aspects of videogames is crucial for the understanding of the medium. This research focuses on what elements constitute the visual aspects of mediated space on a videogame and how we can analyse them. For a successful framework for the analysis of those aspects we drew inspiration from established methods of other media, while adapting them to the specificities of the videogame medium and striving for deep and concrete descriptions. With this framework established, with the name of *mise-en-jeu*, it is possible that future studies can observe the influence of the *mise-en-jeu* on gameplay and player experience. By examining the key concepts of film's *mise-en-scène*, we have been able, by comparison, to pinpoint the key-aspects of each visual element analysed in videogames, from which resulted eight variables for the analysis of the *mise-en-jeu: Lighting Key, Camera Proxemics, Camera Perspective, Shapes, Area of Phase Space, Depth of Field, Horizon of Intent* and *Setting*. We dissected the possible results of these variables by importing the ones from film that we thought we appropriate for videogames, using descriptors and analysis made available previously by other videogame academics, and by our own conclusions based on empirical knowledge of videogames and analytical play sessions.

Through this research, we have established common guidelines for how these variables can be interpreted, by distinguishing the features of each result through both textual and graphical elements. Our method for testing and proving the functionality of the framework was a detailed postpositivist empirical-analytical qualitative analysis of 36 case studies, which were defined as videogames of the platformer genre, in a chronological order, encompassing works from 1980 to 2013. This analysis of all these case studies allowed us to prove that, using our framework, it's possible to find design patterns common to various videogames and variables, and a future analysis of those patterns will allow us to better understand videogames as a medium.

Keywords: *Mise-en-jeu*; *Videogames*; *Cinematic Space*; *Mediated Space Design*; *Narratology*; *Ludology*; *Visual Design*.

Resumo

O campo dos estudos de videojogos é cada vez mais importante nos estudos culturais e, portanto, descrever os aspectos de design dos videojogos é crucial para a compreensão do meio. Esta investigação procura encontrar os conceitos que constituem os aspectos visuais do espaço mediado dos videojogos e como podemos analisá-los. Para um modelo de análise desses aspectos, inspiramo-nos em métodos estabelecidos noutros meios, adaptando-os às especificidades dos videojogos e procurando descrições detalhadas e concretas. Com este modelo estabelecido, com o nome de *mise-en-jeu*, é possível que estudos futuros possam observar a influência do *mise-en-jeu* no *gameplay* e na experiência do jogador. Depois de examinar os principais conceitos de *mise-en-scène* no cinema, comparamos e identificamos os principais aspectos visuais na análise de videojogos, dos quais resultaram oito variáveis para a análise do *mise-en-jeu: Iluminação, Proxémias de Câmara, Perspectiva da Câmara, Formas, Área do Espaço de Fase, Profundidade de Campo, Horizonte de Intenção* e *Localização*. Examinamos os possíveis resultados destas variáveis, importando os do cinema que consideramos adequadas aos videojogos, utilizando descritores e análises disponibilizadas *a priori* por outros académicos de videojogos, e através das nossas próprias conclusões baseadas em conhecimento empírico de videojogos e sessões de jogo analíticas.

Através desta pesquisa, estabelecemos directrizes para como essas variáveis e resultados podem ser obtidos por demais investigadores, distinguindo as características de cada resultado através de elementos textuais e gráficos. O nosso método para testar e comprovar a funcionalidade do modelo foi uma análise qualitativa empírico-analítica pós-positivista detalhada de 36 estudos de caso, definidos como videojogos do género de plataformas, por ordem cronológica, abrangendo obras de 1980 a 2013. As análises desses estudos de caso permitiram-nos provar que, utilizando este modelo, é possível encontrar padrões comuns a vários videojogos e variáveis independentes, e uma análise futura desses padrões permitirá entender melhor os videojogos como meio.

Palavras-chave: *Mise-en-jeu*; *Videojogos*; *Espaço Cinematográfico*; *Design do Espaço Mediado*; *Narratologia*; *Ludologia*; *Design Visual*.

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Introduction

Research on the visual aspects of videogames is currently ongoing by various academics, however none have established a model that allows us to make generalized description of the mediated space of videogames. Therefore, our study is of critical importance in contemporary game studies. Current studies have identified specific elements of the *mise-en-jeu*, but none have collected them. The foundations that point to the need of such a collection into a framework, similar to how film and theatre have *mise-en-scène*, have been suggested by Ivan Girina in *Video Game Mise-En-Scene Remediation of Cinematic Codes in Video Games* (2013) and by Victor Potier in *Mise en jeu de la production aux usages d'un jeu sérieux. Le cas d'une entreprise du secteur du jeu video* (2014).[1]

The problem with suggesting the framework and pointing to cinema as an example is that, while videogames and films have many similarities, they're very distinct media in features and how they operate, and our framework fills that gap by providing a model that is structured and defined by the specificities of videogames. We have confidence that, with this particular model, future studies can contribute to better understand how the mediated space and the *mise-en-jeu* affects gameplay and player experience.

In the following chapters we will first look at current studies on videogame analysis and videogame spaces, define the key concepts introduced by other authors and identify the theories that lay the foundation for our framework. Afterwards we will be looking at the cinematic codes in the form of *mise-en-scène*, and adapting them, when possible, to the videogame medium, while also adding concepts and variables exclusive to videogames. Finally, we will test the framework by analysing 36 case studies of the platformer genre with it, and provide feedback on the outcome of the application of the variables of the framework, mostly by identifying design patterns and describing them.

[1] Proposed translation: *Mise-en-jeu of the Production as Applied in a Serious Game. The Case of a Company in the Videogames Sector*.

Chapter I

I.1. Academic Discourse on Videogame Spaces

In order to understand the videogame medium, we must understand how it is designed. The construction of fictional playable worlds is done through a series of technical and artistic structures, of which videogame spaces are the subject of analysis in this dissertation, given how they develop one of the main elements of narrative construction and audiovisual representation because "the player is interpreting them in order to engage with them" (Nitsche, 2008).

Over the years, various thinkers and academics have studied videogames, and while this work is still "beginning to emerge from its murky status as an 'academic ghetto'" (Whalen, 2001:para.1), these discourses, ranging from informal texts on various websites to books and theses, have identified and described videogame spaces as one of the main elements of analysis, though few models for examination have been thoroughly described (Nitsche, 2008).

Of these and at the time of writing, we have mainly taken into consideration the models, prototypes and descriptions of: 1) Michael Nitsche, who presents his *five planes* theory on *Video Game Spaces: image, play, and structure in 3D game worlds* (2008); 2) Espen Aarseth, who provides us with a more linear and chronological analysis of videogame spaces on *Allegories of Space: The Question of Spatiality in Computer Games* (2000); 3) Sheila C. Murphy, whose article *Live in Your World, Play in Ours: The Spaces of Video Game Identity* (2004) focuses on videogames' mapped televisual space; 4) Henri I. Lefebvre, with *The Production of Space* (1998), a book about the reconciliation between mental space and real space, which, nonetheless, can also be applied in a gaming context; and 5) Mark J. P. Wolf, who includes a very comprehensive analysis of the different characteristics of space (among other categories) in various videogames in *The Medium of the Video Game* (2002).

TV and motion pictures have adopted some mutual standards which are frequently discussed as the *grammar* of the media, though this terminology must be accepted as a cunning figure of speech, because the fundamentals of this grammar don't have any resemblance nor relation to what we normally understand of as a grammar in linguistics. These are not strict rules and there is no universal consensus as to what the rules are, with various critics providing different frameworks, which we will discuss in the chapters ahead. Nevertheless, the concept of audiovisual grammar is important to us, since we are trying to establish an analogy between film and videogame studies, as both share the use of sound and visual components in order to convey a narrative as well as being popular forms of entertainment that project users or viewers into imagined spaces. We do this with a view of having a starting point in our construction of a framework for videogame analysis.

The most substantial part of Nitsche's essay applies previous knowledge from narratology, film studies and architecture into game studies. The author distributes these contrasting disciplines into three segments: *Structure*, *Presentation*, and *Functionality*, making it an unmistakably multidisciplinary experience, and allowing him to "approach the same issue, space in games, from different angles" (Snider, 2011:101).

The following pages will consist of a revision of Nitsche's theory, as we found all fives planes relevant for analysing audiovisual grammars in videogames due to their inevitable interconnections.

His model is critically analysed, since even though it is very capable for a concrete videogame analysis, we argue that it may be somewhat incomplete and that the interconnection between planes is too sequential, leaving no space for the correlation between planes that aren't directly sequential on Nitsche's numeric listing of the model. We're exploring those connections ahead, but first we will introduce the MDA framework, since he will often mention it through our analysis of Nitche's model and throughout the dissertation.

I.2. The MDA Framework

Videogame design is a process that, like film, comprehends various distinct stage until completion. In the first stage, pre-production, designers must plan everything that is significant to the final work. It is also in this stage that they have the need to think about the communication between the videogame's routines[2] and player experience. The goal is to design a work that not only is mechanically well-developed but is also engaging to the player. Over the years, various models, frameworks, and academic papers have been proposed in order to help videogame designers solve this problem, and the publication of MDA[3] Framework (Hunicke et al., 2004) marks what is arguably one of rare occasions in which one of these theories has accomplished an ample acknowledgment within videogame production teams (Ahmad et al., 2017:3).[4] For this reason, we will be often referring to the MDA Framework in this dissertation and this chapter serves as an introduction to its fundamentals.

The authors define the terms of the framework as:

> *Mechanics* describes the particular components of the game, at the level of data representation and algorithms.
> *Dynamics* describes the run-time behaviour of the mechanics acting on player inputs and each other's outputs over time.
> *Aesthetics* describes the desirable emotional responses evoked in the player, when she interacts with the game system (Hunicke et al., 2004:2).

These definitions may be, however, somewhat vague without the context of the whole framework, so we're exploring them some more.

[2] We define routines in videogames as sequences of program instructions that perform specific tasks.

[3] Standing for Mechanics, Dynamics, and Aesthetics.

[4] The other one being the Design, Play and Experience (DPE) framework (Winn, 2008), published in Handbook of Research on Effective Electronic Gaming in Education.

To arrive at these concepts, they researched what the main elements of videogames are and reached a conclusion: Rules, System and "Fun", and from there they established their design analogues: Mechanics, Dynamics and Aesthetics, respectively.

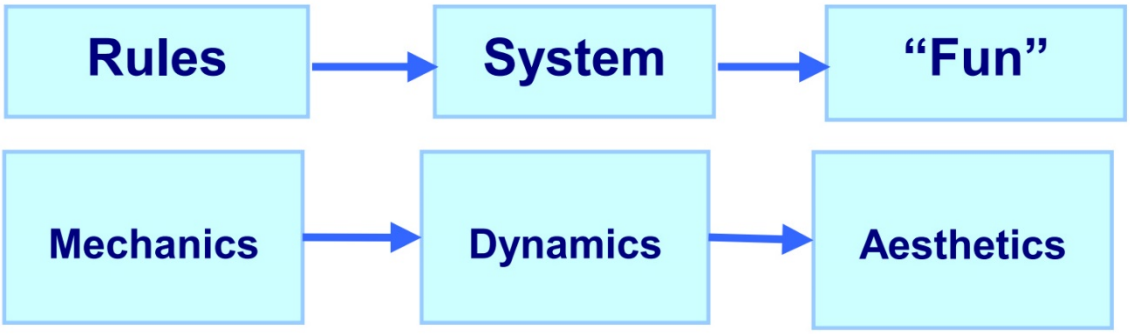

Figure 1: The relations between videogame elements and their analogy with the MDA Framework (Hunicke et al., 2004).

Since *mechanics* are analogous to the *rules* of a videogame, we need to look at them as the machine-driven executions of which a videogame depends when functioning. The player's actions are performed within a context of containment in accordance to these rules. The authors of the MDA Framework describe some examples: "the mechanics of card games include shuffling, trick-taking and betting – from which dynamics like bluffing can emerge. The mechanics of shooters include weapons, ammunition and spawn points – which sometimes produce things like camping and sniping. The mechanics of golf include balls, clubs, sand traps and water hazards – which sometimes produce broken or drowned clubs" (Hunicke et al., 2004:4).

The *dynamics* of a videogame are the idiosyncrasies that become a consequence of the implementation of a videogame's mechanics as a constraint of player action. They are the result of this interaction and necessitate symbiosis between the player and the machine. The MDA framework didn't figure out a way of creating a categorization of videogame dynamics, since every videogame is characteristically different in dynamics,[5] because the dynamics also vary between players due to the need of player action.

[5] Even videogames in the same genre.

The *aesthetics* are set from a player perspective and are related to the tone of the videogame. In relation to this component, the authors of the framework start by asking "What makes a game fun?" Afterwards they conclude that the word *fun* is too limited and that it is not always what a designer sets out to achieve with a videogame, and so they created a taxonomy:[6] 1) Sensation: game as sense-pleasure; 2) Fantasy: game as make-believe; 3) Narrative: game as drama; 4) Challenge: game as obstacle course; 5) Fellowship: game as social framework; 6) Discovery: game as uncharted territory; 7) Expression: game as self-discovery; 8) Submission: game as pastime (Hunicke et al., 2004:2).

The paper describing the MDA Framework concludes by informing us that player experience is constructed from more than the rules, and that videogame designers only design the mechanics, even when their goal with that is to influence the dynamics and consequently the aesthetics.

I.3. Michael Nitsche's Central Model of Game Spatiality

During videogame play sessions, we act in real space and in virtual space at the same time. For this reason, videogame spaces are a crucial part of the medium, making their understanding crucial to videogame researchers (McGregor, 2007:537).

In *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds* (2008), Michael Nitsche delivers a text on the theoretic and mechanical substructures of spatial design in videogames. The *Introduction* serves to establish the main reasons why space is a significant subject for the study of videogames and cyberspace as a whole, introducing his central model of game spatiality: the *five planes* model.

[6] Which they admit that might be incomplete or insufficient.

It is important to recognize the models of spatial structure analysis that came before though. *Trialectics* is a concept invented by Henri Lefebvre[7] in *La présence et l'absence: contribution à la théorie des representations* (1980)[8] and further developed and applied by Edward Soja. Lefebvre distinguishes three types of spaces within the trialectics of spatiality: 1) *l'espace perçu* (perceived space); 2) *l'espace conçu* (conceived space); 3) *l'espace vécu*, (lived space). [9] This third term, or *other* in Lefebvre's three-part dialectic, represents space as a possibly fully lived space, with *moments* of presence (Lefebvre, 1980). According to Soja, "the third term never stands alone, totally separate from its precedents or given absolute precedence on its own." (1996:70) Afterwards, and as a reaction to this observation, Soja establishes the concept of *thirdspace*:

> A knowable and unknowable, real and imagined lifeworld of experiences, emotional events, and political choices that is existentially shaped by the generative and problematic interplay between centers and peripheries, the abstract and concrete, the impassioned spaces of the conceptual and the lived, marked out materially and metaphorically in spatial praxis, the transformation of (spatial) knowledge into (spatial) action in the field of unevenly developed (spatial) power (Soja, 1996:31).

Nitsche concludes that a "system has to be able to answer to how we perceive the space" and that we must understand how that answer can be analyzed from phenomenological perspective. His answer to that issue is a model that "distinguishes between five

[7] It's important to be aware of the models proposed by Lefebvre and Soja because most models of game spatiality analysis were developed by using those models of spatial analysis as a base for videogame spatiality frameworks. It also serves as a point of comparison for Nitsche's model on how different spaces inform each other.

[8] Translated to English as *Presence and Absence: Toward a Theory of Representations* (Monterescu, 2015:335).

[9] In a more approachable interpretation of Lefebvre's theory, author Miriam Kahn describes the perceived space as "physical, tangible, material reality", the conceived space as "mental space composed of representations, signs, symbols, codes, abstractions, ideas, and depictions", and the lived space as "the fully lived space of both physical and imagined engagement, the dynamic space of everyday experience" (2011:19).

main conceptual planes for the analysis of game spaces." (2008:15) Those five planes consist of: *rule-based space*, *mediated space*, *fictional space*, *play space,* and *social space*. Sercan Sengün provides a brief interpretation and description of these planes:

> The rule-based plane contains the rules of the game system as well as the software code, AI and/or physics engine that implement these rules. The mediated plane consists of the visual outlet of the game and mostly breeds cinematic and visual studies. The fictional plane on the other hand is a different output than the mediated plane — Nitsche proposes that even if the players could see the output of the game in the mediated plane, in their minds a richer fictional world combining their expectations from the game also endures. The play plane operates under the study of play and its meaning. The social plane is the interaction of the player with the other players, be it in the physical proximity or online. (Sengün, 2015:186-187)

Nitsche also believes that each plane has a direct output connection with the one that comes after. That is to say that: the rule-based plane informs the mediated plane, which informs the fictional plane, which informs the play plane and the latter informs the social plane. This might be undermined by researchers who believe that there is always a multi-directional exchange of information between all of the five planes, as defended by Adrian Forest, who articulates that "where the trialectic spatiality of Lefebvre/Soja describes spatiality as a set of aspects that interrelate and inform each other, Nitsche's model describes five planes where each only relates to the next in line, and no plane informs previous planes" (2011:14).[10]

[10] While our dissertation will follow Nitsche's model, we will also try to develop and present a model that takes into consideration both Nitsche's and Lefebvre/Soja's descriptions.

I.3.1. Rule-Based Space

Nitsche describes the rule-based space as one "defined by the mathematical rules that set, for example, physics, sounds, AI, and game-level architecture" (2008:16). On a machine-level,[11] virtual environments are defined by these rules and used by videogame developers to immerse the player and produce intense theatrical-like compositions[12] throughout various contexts. If observed under the MDA Framework (Hunicke et al., 2004), Nitsche's rule-based space category would inevitably fill the mechanics category, with the two terms being analogous.

One of the major factors that marks the videogame medium is the ability to let the player interact with the system in order receive an audiovisual feedback.[13] This interaction is a part of what distinguishes videogames from traditional audiovisual media like film and television. Videogames, like traditional board games, also have present the concept of *defining rules*, in which the laws of a game restrict player activity, are explicit, clear, mandatory, and common to all players. Inside the magic circle, participants experience a sort of equality and justice that isn't present away from videogames (Salen & Zimmerman, 2004:260). "The frame of a game is what communicates that those contained within it are playing and that the space of play is separate in some way from that of the real world" (ibid., 2004:94). Salen & Zimmerman then continue exploring Johan Huizinga's concept of magic circle[14] in videogames by stating that "the frame is a concept connected to the

[11] Machine code or machine language is a set of instructions executed directly by a computer's central processing unit (CPU) (Dale & Lewis, 2012).

[12] A composition is intended to portray life or character or to tell a story usually involving conflicts and emotions through action and dialogue and typically designed for theatrical performance (Marriam-Webster Dictionary, 2017). Compositions in a videogame's virtual environments are also created for dramatic purposes.

[13] Although this isn't exclusive, as it is common other media such as hypertext and installation art.

[14] The concept of magic circle was first introduced by Johan Huizinga in 1938 and an English version of that work was published as *Homo Ludens: A Study of the Play-Element in Culture* (1949).

question of the reality of a game, of the relationship between the artificial world of the game and the real-life contexts that it intersects. We call this frame the magic circle" (2004:95).

Player action within the rules of play established by the system can sometimes, in vernacular use, be referred to as *gameplay*. Just like in tabletop board games such as *Monopoly* (Magie & Darrow, 1935), where players have to carefully consider the rules of the game whenever they move across the board in order to be successful in a game session, videogames have set rules defined by the game designer that puts the player in a position of necessity to adapt in order to progress through the game. These rules are algorithmic, embedded in the system itself, and are defined through the programming of various structures of the game. In-game tutorials and training modes are usually provided in order not only to allow the player to learn and grow accustomed to these rules, but also in order to master them. One of the systems in existence within a videogame's architecture is that of Artificial Intelligence (AI). In contemporary videogames, AI is often used as a means to offer computer-controlled characters (sometimes also called non-player characters, NPC) the capability to navigate the setting of the game, discover the players, and interact with them. The game environment and character behaviour are usually affected by both physics and AI systems that generate content with a varying procedural nature, depending on the videogame (Bakkes, 2009). Some recently released videogame titles such as *Middle-Earth: Shadow of Mordor* (2014) and *ECHO* (2017) present various evolved forms of enemy AI that allow for a constant change to a part of a videogame's rules. In the case of *Middle-Earth: Shadow of Mordor* the enemy characters remember the player after a fight, allowing personal rivalries and side-stories to develop, while in *ECHO* the AI tires to adapt to the player's playstyle, encouraging the players to keep changing that way they approach a given situation.

I.3.2. Mediated Space

Nitsche defines the *mediated space* as: "the presentation, which is the space of the image plane and the use of this image including the cinematic form of presentation", that is to say, everything that is typically viewed on a video screen or television (Nitsche, 2008:16). We must not forget though, that the mediated space also includes images presented through virtual reality (VR) devices, game sound effects, music and other acoustic elements which come out of speakers, along with haptic and vibratory devices such as controllers and racing wheels, among other devices. This order of mediation is technology-based since it provides the user with a space which is experienced through the use of technological devices (Renò, 2005).

Through the mediation of a screen, videogames are able to communicate with players and display the game world. Game designers have a very wide array of options they can use for the screen space in order to construct the narrative, but a key-aspect that has to be taken into consideration is the *framing*. This is because not all videogames utilize a dynamic virtual camera system[15], but they all possess pre-determined routines that allow them to elect what they want to show to the player, and this is a key-aspect in the mediated space. Games like *The Legend of Zelda* (1986) don't use a 3D virtual camera but still, elements present in the frame impact narrative, and the players are constantly aware that they can only see a dungeon room at a time, as the overhead camera switches on a room base. Storytelling through framing is the art of visually depicting change for narrative purposes (Kuhn & Schmidt, 2014).

Due to the duplicity of real and imagined places and the constant need of player awareness of these, a necessity emerged to study this connection between players and game worlds. Yu-Ching Chang and Chi-Min Hsieh studied, in *Eye Space: An Analytical Framework for the Screen-Mediated Relationship in Video Games* (2017), this connection

[15] Old arcade games, for example, usually have a system that's analogue to a static camera, in which there's no camera movement.

in the screen-mediated space and invented the concept of eye-space. It serves as a link between the player and the game space, and although game space and eye-space are closely related and can even intersect with each other, they have different qualities. Rather, eye-space is the" decisive area where the gameplay takes place" (84). It is the principal constituent of videogame design, in the sense that it has straight synergy with players and a deep outcome on gameplay. "Eye space mostly resembles mediated space, which is defined by the presentation; nonetheless, at the same time, it stretches out to rule-based and play spaces, which are not merely visual. In other words, eye space defines not only the appearance of game space but also the ways in which players engage during gameplay". (85)

Chang & Hsieh propose a taxonomy of the compositional elements and their respective importance and significance within a given frame. This model divides them into four categories: *primary subject*, *distractions*, *backdrop*, and *guiding information*.

The *primary subject* is composed by the core of the composition and similarly has "noticeable features to grab players' eyes and attention and also provides necessary information for gameplay" (2017:87). The primary subject is analogous to the centre of interest that we find in arts such as painting and photography, and it is the "theme of the image, the core of the composition, and the most interesting part for viewers" (2017:87). While the primary subjects vary significantly between videogames, they all have the same designated purpose, which is to keep up the progress of a videogame. In *Donkey Kong* (1981), for example, the primary subject is the main character, which is presented in red garments against a black background and that allows him to be the centre of attention to the player, when combined with the character's constant movement, as opposed to the static Donkey Kong. In *F-1* (1976), the primary subject is the player-controlled character, since it constantly moves around the middle of the screen, although its colour also helps in its distinction from non-primary subjects.

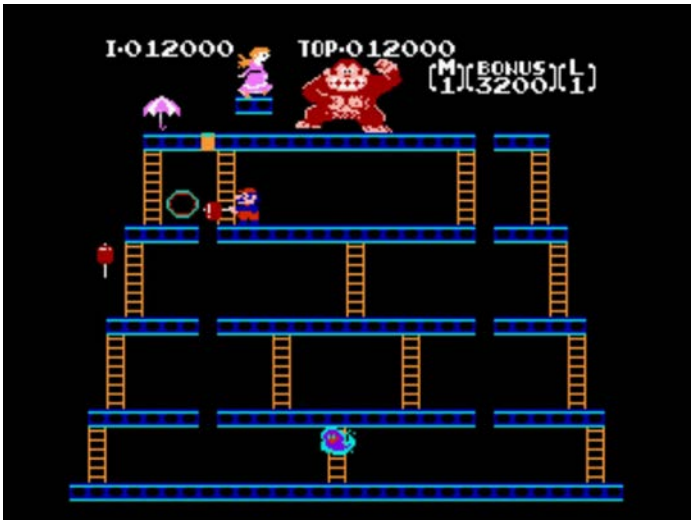

Figure 2: The main character presented in red against a dark background in Donkey Kong *(1981).*

The *distractions* are anything one must take into consideration the majority of the stretch of a play session, excluding the primary subject. In this sense, they are secondary subjects and, as such, play a vital role in maintaining gameplay flowing due to their diversified nature, both in mechanics and aesthetics, and due to the fact that multiple secondary subjects are usually active at any given time, while the primary subject is commonly singular and constant. Due to their abundant nature, they're tasked with providing substance to many major game elements such as challenges, selections, rewards, and fulfilment for players. Distractions can occur as elements as distinct as treasure chests, walls, non-player characters, opponents, loot, doors, collectables, event trigger objects such as colliders, or whatever concerns the players the most in a given game (2017:88). In *Space Invaders* (1978), for example, both the descending aliens and the stationary defence bunkers are distractions with the first serving as opponents and the latter as defensive wall, and both present the player with different mechanics that the player has to learn and keep track of in order to progress in the game. In *Pac-Man* (1980), we find the distractions in the form of mazes, various dots and four multi-coloured ghosts. They all serve different purposes and they all shape the gameplay in the form of multi-path defining objects, loot and opponents

respectively. If the player does not keep track of these elements constantly, level progression can be severely toughened.

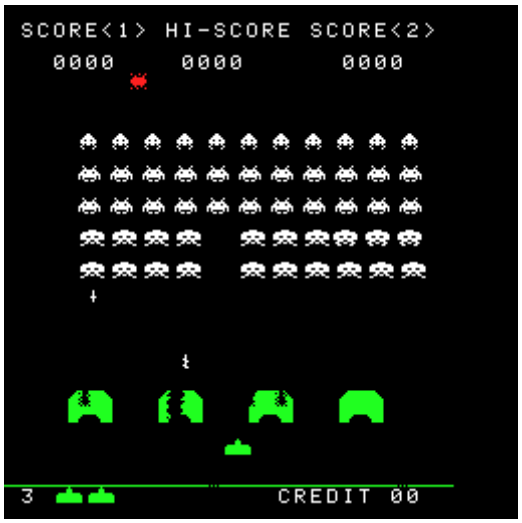

Figure 3: The descending aliens and the stationary defence bunkers are part of the distractions in Space Invaders *(1978).*

The *backdrop* builds up the background plus the details of the players surroundings, although it isn't always located in the back of the elements from the other three categories. It can mostly be observed in environmental details, helping create the ambiance and atmosphere in videogames. Although backdrop appears to not take part in the gameplay aside from assisting in the ornamentation, "it has a lot to do with it [gameplay]. The backdrop fills out the blanks" (2017:89). It helps completing the composition so that the desired visual harmony can be found, and this affects gameplay as a visual mechanic, as it makes other elements such as the primary subject and the distractions distinguishable to the player in their contrast with the backdrop. In *Hang-On* (1985), for example, the backdrop near the road uses a distinct colour that works closely with the distractions in defining the limits of the road. The backdrop that can been seen transitioning in the background (i.e. buildings, mountains, forests) helps making the levels feel more dynamic, due to the lack of introduction of new mechanics in the distractions over the course of a play session.

Figure 4: A screenshot from Hang-On *(1985) in which the various elements that make up the backdrop can be seen.*

Guiding information consists of the graphical guidelines and indications in the mediated space delivered to players; for example, the enemy's health bar in *XCOM 2* (2016) that shows the current status and marks the maximum damage of an attack, and the ideal line in *Grand Prix 1* (1992) that helps players learning the layout of a track. Overall, guiding information remains both a structural and an interaction element of the Graphical User Interface (GUI) and "clear evidence of data visualization in games, (…) such as the status bar and the heads-up display commonly used in point of view games" (2017:91).

Figure 5: A gameplay screenshot from XCOM 2 *(2016) in which many aspects of the guiding information are shown, such as the aforementioned enemy health bar.*

I.3.3. Fictional Space

Nitsche describes the fictional space as one "that lives in the imagination, in other words, the space *imagined* by players from their comprehension of the available images" (2008:16). The origination of fictitious realms in the player's mind is developed from an understanding of various graphical depictions presented in the mediated space, most of the times offered through 2D and 3D graphics but also through text, i.e. in videogames such as MUDs[16] like *LegendMUD* (1994). It should be noted though, that mediated space is only the starting point for the construction of these fictional spaces, since players actively desire to interact not with the television or display but rather with a fictitious domain that the televisual space conveys to their mind. These fictitious domains are what Nitsche categorizes as the fictional space. Sometimes, when a videogame is part of a larger narrative, of which the player has previous knowledge of, he might be able to instantly recognize the

[16] Multi-user dungeon/domain/dimension videogame (Dieterle & Clarke, 2009:1033).

game-world and be immersed in a fictional universe, a logically consistent location alongside events that diverge from real life. Nitsche recognizes that the fictional space is created through a skilfully focused "sense of place and context in a fictional universe within the shortest possible time" (2008:13). This is true not only in videogames, but also in other media such as novels, comics, films, television shows and other creative works.

For Lev Manovich, navigable space has become "an accepted way for interacting with any type of data" (2002:219). He argues that videogames, in a similar fashion to most new media pieces, privilege spatial imagination and that space in computers and videogames is not static and functions in a very different way: "as something traversed by a subject, as a trajectory rather than an area" (2002:239). Furthermore, Manovich expands on the subject by exemplifying on how the use of computer graphics in flight simulators moulded the mind of researchers and developers to think of these programs as ways of "flying through a simulated spatial environment" which pilots can then use to practice, flying through a certain environment without ever needing to physically experience it (2002:237). We can use this comparison as a way of strengthening the idea that computer spaces are more than what's presented on mediated space. They are fictional universes that become genuine and tangible in the player's mind.

> Computers allow us to experience and interact with other possible worlds; the epistemological and aesthetic possibilities of such 'augmented ontologies' are beyond anything we ever imagined (Hernández-Ramírez, 2015:12).

In these circumstances, interaction is an important component in our spatial imagination when playing a videogame, given that the player's actions have a direct impact on the image that is outputted by an audiovisual device, although this might not always be the case. Granted that while any object in the videogame must encompass interactive and ergodic[17] components, being these important elements, alongside rules and goals, in

[17] See *Ergodic literature* in the dissertation glossary.

distinguishing videogames from other experiences such as cinema, they aren't always present in every single moment of a play session. Videogames are designed to have rules, making them, to a varying degree, constructed experiences, in some instances. No matter how much a videogame is procedural in the nature of its systems, play sessions are "framed and punctuated by movie sequences, map screens, score or lap-time feedback screens and so on" (Newman, 2001:para.1). We must take into account these elements present in the videogame object and consider that "ergodicity does not necessarily imply interaction. Non-interactive procedural artefacts", such as the V.A.T.S.[18] cutscenes in *Fallout: New Vegas* (2010), "may allow the development of ergodic experiences through interpretation" (Carvalhais & Cardoso, 2015:55). Therefore, we must consider that fictional space is constructed not only through play sequences but also over the presentation of non-interactive elements, whether there are or not procedurally generated.

I.3.4. Play Space

Given the many different types of play experiences offered by the videogame medium, we must take into consideration the space in which players act within the rules[19] of, not only the game but also, the physical devices that accommodate the play experience, ergo the previously discussed spaces are "relative to and dependent on the hardware (…) upon which games are created and played" (Adams et al., 2016:120). Nitsche includes the connections between the player and the physical machine in *play space*, which he describes as "space of the play, which includes the player and the video game hardware" (2008:16). He further illustrates this space as a relationship between a "designated space in the

[18] The Vault-Tec Assisted Targeting System, also known as V.A.T.S., is a unique method for eliminating enemies by stopping time and initiating a series of critical hits (Bell, 2017).

[19] Even within scenarios of cheating (breaking the rules of the game), several of the avenues of cheating available in non-electronic games are not available in videogames, because the game system is encoded in a computer, and the game cannot be manipulated except through the means encoded in its affordances, which are the intended lawful means of playing the game (Tavinor, 2009:107).

physical world that includes the player and the gaming system", in which, grounded on the fictional space, players adopt physical movements to make a difference in a determined scene on other game spaces (2008:16). Those movements are made within what Brian Upton defines as the *horizon of action* and the *horizon of intent*. The *horizon of action* represents what the players can do, and the *horizon of intent* represents what the players should do.[20]

Outside cyberspace[21], we must be able to view play as a corporeal experience as well. As Lehdonvirta argues:

> (…) even at the core of virtual space, physical space cannot be ignored. Guilds in *World of Warcraft* (Blizzard, 2004) and corporations in *EVE Online* (CCP Games, 2003) recruit members based on the continent and time zone in which they reside in. For WoW raiding guilds, it is important that members can be online simultaneously for extended periods of time. For EVE alliances engaged in war over territory, it is vital that members are available to keep guard at all hours (2010).

We believe that in order to reach the *fictional space*, we must make use of most of our human senses, given that the use of different hardware demands diverse sensorial experiences, as exemplified ahead. The line of sight,[22] for example, present in wargames and some role-playing games, such as *Order of Battle: World War II* (2015) and *Dungeon* (c.1975) respectively, determines who can see what on the playing field, and can only be experienced when the player has an accurate vision on the mediated space. Searching for audio cues in videogames, as for instance in *Devil Daggers* (2016), can be an essential ability to succeed in playing a determined level, making both the player's auditory capacity and

[20] See more on the subject on page 80.

[21] See *Cyberspace* in the dissertation glossary.

[22] Line of sight refers to the ability of one character to see another on the field. If a tree or building, for example, completely blocks the view, both sides would be hidden from each other. If the obstacle only partly blocks the view, then the two sides would have cover from each other (Bobek, 2007:21).

the system's designated audio output system's reliability indispensable. A haptic interface, usually present in arcade games and videogame controllers, is "a feedback device that generates sensation to the skin and muscles, including a sense of touch, weight and rigidity" (Iwata, 2004:194), and can be highly impactful in the player's experience given that it helps in the immersion in situations such as the collision with another vehicle in racing games like *Moto-Cross* (1976), in which the handlebars vibrate at the collision moment. Some videogames, particularly since the start of the 21st century, began to positively apply kinesthetic interfaces. Features such as pressure and motion sensors are employed in products like the Wii Balance Board[23] and used in videogames like *Just Dance 4* (2012) which, as many other games in the genre, involve bodily action by the player (Meiselwitz et al., 2010).

I.3.5. Social Space

Collaborative learning is a situation in which two or more people learn or attempt to learn something together (Dillenbourg, 1999). The main goal of software like *Second Life* (2003) is the regeneration of a new world. In that online world exist various communities and some, like Etopia Ecovillage, aspire to be ecologic groups that foresee a stable and green existence. Etopia's motto is:

> Etopia is home to a variety of organic, cooperative, and sustainable living systems. We live, work, play, and learn in cooperation with others.

A close examination of the structures and systems present in the communities of videogames like *Grand Theft Auto Online* (2013) and *Quake Champions* (2018) allow us to be able to identify that a videogame's cyberspace as big as this needs teamwork and collaborative learning from all active members.

[23] The Wii Balance Board is an accessory that acts like a balance with pressure sensors and allows the player to do various physical activities. (Nintendo. 2007. *Wii Balance Board*.)

Nietsche affirms that social space is "defined by interaction with others, meaning the game space of other players affected" (2008:16) and further expands on this by acknowledging that although the previous description of the fictional plane is a vastly distinctive one, "the precision of the space's presentation and the shared functionality allow for effective sharing of navigable and distinct space" (2008:233). As players grow accustomed to all other planes of space of a determined videogame and learn to master them, learn to read them, and project meaning into them. They gain further interest in socialization since they will be familiarized enough with the object to work on it with others. The ways in which socialization processes occur are too varied and vast to be listed but happen mainly through small scale local & online multiplayer, massively multiplayer online multiplayer, multi-user dungeons, word-of-mouth, bulletin boards and social networking services.

We must consider all these possibilities, since events, as Nitsche puts it, don't happen just online, for example, but are contained within a game world. Even in single-player worlds, the player's interpretation of that world might be influenced by parameters such as leaderboards, social media communication or advice by someone sitting near the player in the real world, making every play experience contain a social space. Even when we consider the power of player agency[24] in the undercurrents of gaming, we must recognize that while gamers are generally free agents, they must act within the rules established by the game designers, who will inevitably socialize and handover their ideas to the player in the form of design choice, even when, nevertheless, their power is eventually compromised by players' interpretive agency (McGonigal, 2006) and the exploitative factor that is innate in a videogame due to the malfunctions in the game system, which appear in the form of glitches and bugs (Cardoso, 2015:291).

[24] See *Player agency* in the dissertation glossary.

Closing Comments

Nitsche proposes the creation of a structure for game analysis which does not take into account the models that came before it, such as *Computer Game Criticism: A Method for Computer Game Analysis* (Konzack, 2002) and the MDA framework (Hunicke et al., 2004). Even though his focus is in three-dimensional videogames, we believe that the model presented for the analysis of navigable videogame spaces is applicable to videogames of all graphical projections, with some adaptations.

The examples Nitsche uses throughout the book can sometimes depend in excess on film studies since, as Wolf puts it:

> Video game genre study differs markedly from literary or film genre study due to the direct and active participation of the audience in the form of the surrogate player-character, who acts within the game's diegetic world, taking part in the central conflict of the game's narrative (2002:114).

It also should be noted that while Nitsche's spatial analysis model itself can be applied to all videogame genres, the remainder of the book focuses exclusively on 3D spaces, describing elements such as virtual cameras (which are essential for further analyses on this dissertation), and in the 2D plane, for example, videogames often make use of the side-scrolling camera, which Nitsche doesn't report on.

With this in mind, it's important that we recognize additional frameworks for the analysis of the mediated space such as *Video Games and Urban Visions* by Daniele Colistra (2013) and *Eye Space: An Analytical Framework for the Screen-Mediated Relationship in Video Games* by Chang and Hsieh (2017) because they explore variables in videogame spaces that Nitsche didn't approach – like the 2D plane – and present models to explore the mediated space in more detail.

As evidenced in this abridged review of the five planes model, contrary to Nitsche's proposition, we suggest that there exists a correlation between all planes of space, and

that they influence each other, even when they aren't directly followed by one another, taking into account Soja's model which maintains that entirety of the identified spaces should advise each other. Deriving from his model, we can also support the thesis that agency is effective in all directions of videogame spaces, as is the stream of context.

The five planes model also fails to identify a connection between space and time, and as such, does not try to understand their dynamic relationship, as we can find in the works of Gabriel Zoran (1984), Jesper Juul (2005) and José Zagal & Michael Mateas (2007). Zoran, while not addressing videogames specifically, demonstrates that there is clear evidence of the relationship between space and time in the narrative text. He also makes the point that, both in natural sciences and narratology, "independent or interdependent, space and time are perceived as complementary aspects of equal status, belonging to a common field of debate" (1984:309). This supports our conviction that Nitsche's model is missing this connection, especially because he bases one of the three main segments of his book (*structure*) on classical narratology theory. Juul explores the connection of space and time in videogames by evidencing that they co-exist in videogames but are separate from spacetime configurations in the rest of the world and that this configuration in videogames does not bound them to it, giving the example of *Majestic* (2001), "where actual phone calls are part of the playing of the game" (2005:54). Zagal and Mateas start by explaining that most of our current insight of time is a symbolic version of our understanding of motion in space (2007:517). From here they provide a framework for the analysis of game temporality grounded on real world space time theories and metaphors applied to the videogame medium.

CHAPTER II — A Framework for the Analysis of the *Mise-en-jeu*

The videogame medium isn't appropriately comprehended if we carry on beholding it merely as a sum of devices and methods, consoles and videogames. Video cameras, VR headsets, gesture controllers, 3D game engines and additional modern components provide new ways of mediating and representing the game world, and of communicating, but we must understand what that communication means to the player. On the screen mediated space, we are presented to and engage with the game world, not just as a technology, a rendering of the videogame's code and assets, but also as a cultural form: they are an element of our pop culture, and of our commonly lived experiences. For these reasons, we propose a framework for the assistance in the analysis of some features in videogames' design aspects, specifically the ones that are presented and experienced through the screen mediated space. We'll call these aspects *mise-en-jeu.*[25]

II.1. The Mediated Space in Cinema

In film studies, academics rely on a representative and expressive analogy called *scale* to understand how space, place and landscape function in the *mise-en-scène*. Scale provides a spatial structure that clarifies and explains. In cinema, scale often references distance and proportion. Landscape is a cultural production, a space that is mediated by power relations. While landscapes are read and interpreted for visual signs, they also mediate our interpretation (Lukinbeal, 2005:13-14). A large portion of the pleasure of spectatorship is dreaming up that we're inhabiting an imagined landscape, distinct from the real

[25] This is an adaptation of the term *mise-en-scène,* which is used to describe the design aspect of a theatre or film production. While the term *mise-en-jeu* hasn't been officially adapted by videogame scholars, designers nor journalists, it has been suggested by Ivan Girina in *Video Game Mise-En-Scene Remediation of Cinematic Codes in Video Games* (2013) and by Victor Potier in *Mise en jeu de la production aux usages d'un jeu sérieux. Le cas d'une entreprise du secteur du jeu video* (2014), and believe that it is a term that's suitable given the thematic of our research.

space of viewing. Cinematic space is thus fundamentally *other,* but it is a contained otherness that allows the spectator both the thrill of experiencing something distinct from one's norm and the comfort of protection from this difference (Corbin, 2014).

For Sergei Eisenstein[26] the effects of montage were analogous to *plowing up* the mind of the viewer. In his initial theoretical writings, he categorises this as a *montage-of-attractions*. The attractor is an image that is introduced into the diegetic flow of the film to subvert the naturalistic character of events. What this means is, basically, an experience of conciliation with the object on the part of the spectator. They lose themselves in the process of assimilation with the object. However, the blueprint of montage was, for Eisenstein, not an artistic technique, but the very basis of all psychic processes, and of creative action (Roberts, 1998:22-23).

Continuity editing is the most common method of approaching montage, a scheme of cutting that makes the time and space taken from different shots as *continuous*. While "spatial and temporal clarity tend to dominate in continuity editing", the change in rhythmic and graphic parameters form shot to shot allow filmmakers who exploit filmic rhythm to get distinct results by shaping internal and external rhythm. They can "take advantage of the capacity of the latent graphic relations between shots" to move beyond spatial/temporal representation and, therefore, "transform their aesthetic canvas into a full expression of their underlying theme." They can make this work by shaping event rhythm responses, since they know the audience that the film is addressing and their "likely physical rhythms, rates of assimilation of information, and expectations of change." The film makers use this knowledge and their own feeling for maintaining the tension of climatic questions to organize the plot occurrences into a "rhythmically coherent and compelling structure" (Frierson, 2017:425).

We live in a cinematic society, one that portrays itself through movie screens. Being aware of an audience's understanding of cinematic languages is necessary to know which

[26] Sergei Eisenstein was a Soviet film director and film theorist, a pioneer in the theory and practice of montage.

information one can provide in the mediated space, and at which rate. For example, in industrialized countries, since 1930, movies are a weekly pastime and after 1950, with the advent of television, watching films became a daily activity. Without considering the impact that the films in television and cinema screens have on people we can't understand contemporary society's pictorial literacy. Our lives, what we know and what we ignore, are influenced by the information contained in the screens of cinema and television (Vera and Gordon, 2003:8-9).

The ways in which the cinematic space is presented to and influences us is constantly changing though, and new studies are regularly being presented that indicate differences on the effects of telepresence and immersion at closer viewing distances, and in technology differences. Certain types of content may lend themselves to more immersive viewing. Research shows that three dimensional displays will likely accentuate the sense of immersion, as the effects "may mimic that previously experienced in a large-screen IMAX theater or with a head-mounted display such as that produced using the wide-angle Oculus Rift technology" (Pavlik, 2016:129). Due to these current and future paradigms in film and TV image presentation, film makers and other content creators need to adapt the way they think about montage, pacing and other aspects of *mise-en-scène* and visual arrangement.

II.2. On Cinematic Space, Cinematography and Videogames

Our analysis of the mediated space in videogames considers elements and knowledge from film studies, but we believe that it's important to define and distinguish two key terms first – *cinematic* and *cinematography* – in their relationship with videogames and within the context of film studies.

In film studies, cinematography refers to "motion picture filming techniques" and is also referred to as photography by some authors (Mascelli, 1998:12). The art of

cinematography[27] is centred around the framework of the five Cs: *Camera Angles*, *Continuity*, *Cutting*, *Close Ups* and *Composition* (ibid., 2). Our research returned no conclusive results on a standardized framework for videogame visual design techniques, although some researchers have pointed some of the essential elements for videogame cinematography and *mise-en-scène.*[28] In *Game Architecture and Design: A New Edition*, Andrew Rollings and David Morris refer that "although rich with unique potential of its own", the videogame medium shares "elements in common with other arts" and they identify two key-variables in film: *mise-en-scène*, "the organization of images in space" and montage, that stands as their specific arrangement in time (2004:219). They also state that, while in film one "cannot employ *mise-en-scène* without evoking montage", videogames only make use of *mise-en-scène* since "montage requires the viewer to be a spectator and not the controller of the action" (ibid., 220),[29] except in cutscenes, although those aren't interactive elements of a videogame. Despite their lack of interactivity, cutscenes allow for "the ergodic effort" to acquire "typical meanings from the generic worlds of popular culture" (Klevjer, 2002:191), meaning that cutscenes contribute to the player's knowledge of a determined cyberspace, even if they were generated outside of it.

Cutscenes compose what we may call *cinematic frames,*[30] even though the term cinematic can also be applied to videogames even when we're not referring to cutscenes,

[27] "The term cinematography is from the Greek roots meaning "writing with motion." At the heart of it, filmmaking is shooting — but cinematography is more than the mere act of photography. It is the process of taking ideas, words, actions, emotional subtext, tone, and all other forms of nonverbal communication and rendering them in visual terms." (Brown, 2012:2)

[28] "In the original French, *mise-en-scène* (pronounced meez-ahn-sen) means "putting into the scene," and it was first applied to the practice of directing plays. Film scholars, extending the term to film direction, use the term to signify the director's control over what appears in the film frame. As you would expect, *mise-en-scène* includes those aspects of film that overlap with the art of the theater: setting, lighting, costume and makeup, and staging and performance." (Bordwell and Thompson, 2013:113)

[29] While we opted for this author's thesis, we acknowledge that some authors, such as Michael Nitsche, remark that videogames feature *interactive montage*, one in which "every cut is initiated by the player and is an essential element of the gameplay." (Nitsche, 2005:2)

[30] A term also used and supported by Mike Jones (2005:1) and Yu Ching Chang and Chi Min Hsieh (2017:1).

something we will explore afterwards. We call them *cinematic frames* for their lack of ergodicity[31] and their close resemblance to the language of film, since they often include non-interactive montage, as stated above. Many videogames will even change their aspect ratio[32] when presenting cutscenes (see Figure 6), which gives the mediated space a look that more closely resembles film. Some cutscenes are even presented as pure films, since they're designed as full motion video (FMV),[33] a storytelling method which is based on pre-recorded video files, while others rely on real-time rendering of sprites, vectors, and three-dimensional (3D) models, a concept termed *In-engine Cinematic* (Scheuermann, 2004:3).

Figure 6: Comparison screenshots between the aspect ratio in an interactive moment of the videogame and a cutscene in Metal Gear Solid 3: Snake Eater HD *(2011).*

While these cutscenes usually occur before and after game levels and, in some videogames, sub game levels, as a means of transition and additional storytelling, some videogames use *cinematic-paths,* moments when the "camera suspends normal function to provide an out-of-screen narrative context" (see Figure 7). This grants videogame creators the ability to supply players with a cinematic moment in the middle of a gameplay situation,

[31] See ergodic literature in the Glossary.

[32] "The ratio of frame width to frame height is called the aspect ratio. For example, an image that is twice as wide as it is high is said to be in a 2:1 ratio. Thomas Edison, Lumière and other early film inventors set the proportions at approximately four by three, yielding an aspect ratio of 1.33:1" (Bordwell and Thompson, 2013:182).

[33] "As opposed to normal in-game graphics, FMVs are computer-animated movies that are created and rendered ahead of time. Although they can't be interacted with, they allow for a far greater level of detail than is otherwise possible" (Lebowitz and Klug, 2011:24).

acting as a way of “providing a narrative context as well as gameplay guidance, without drawing players’ focus from the action.” (Keren, 2015)

Figure 7: A typical example of the usage of cinematic-paths in Alien Hominid *(2004), to be read left to right and top to bottom, gameplay is interrupted in the first frame for a cutscene to be presented, after which gameplay is resumed in the last frame with the player character in the same spot it was before. Video version of the illustration available at: https://streamable.com/hmk3j*

Even though the term cinematic is usually applied to cutscenes, we can also refer to a videogame as being cinematic in a sense that a specific artwork might try to approximate the aesthetics of a specific film genre (Thai, 2017), although we must maintain that when the similarities are no longer merely reflected on the overall presentation and slip into the mechanics, dynamics and cinematographic elements like camera movements and point of view, we’re debating cinematography again (Logas and Muller, 2005:2).

Recalling the Eye Space framework (Chang and Hsieh, 2017), it references cinematographic "principles of visual composition, the placement of foreground, background, and mise-en-scène" in its creation (ibid., 87).

Mise-en-scène allows the "level designer to imbue their virtual spaces with deeper symbols and meaning" and is defined in videogames as the application to the mediated space of "cinematography, lighting, blocking of actors, art direction, set dressing, costumes, props, and use of color" (Logas and Muller, 2005:3). Mike Jones argues that a videogame's *mise-en-scène* is characterized not only by visual components but also by acoustic ones, and that the visual element of the mediated space "is just a small part of the composed scene, not the scene in its entirety." (2005:5) In his research he refers that videogames rather have a *macro-mise-en-scène*, in which some sounds "are specifically necessary to the forward progression of story" although the videogame's audio as a whole "most often exists in 'actuality' rather than simply as a signifier", and for that reason it's an element as important as visuals in the mediated space (ibid., 6).

While many of the cinematic principles of visual composition can also be taken into consideration in videogame studies, there are many specificities in the medium and, as such, a specific analysis is needed. For this, Chris Solarski wrote *The Aesthetics of Game Art and Game Design* (2013) which attempts to clarify how experiences are created through aesthetics in videogames and is mostly based on comparisons with classical art and graphic design as it addresses issues that the film-based *mise-en-scène* in videogames doesn't acknowledge. The author focuses on dynamic composition and shapes as he explores them through psychosociology, stating that they are generally outlined by four components: *Character shape, Character animations*, *Environment shapes* and *Pathways*. Videogames are supported by the "very same design principles — perspective, form, value, etc" that classical artists used in storytelling through art, so Solarski believes that we must understand the psychology of lines, shapes, and volumes on a videogame's dynamic composition (ibid.).

II.3. The Power of the *Mise-en-jeu*

The idea of videogames as artistic propositions is a very disputed issue, central to various contemporary debates relative to new media. Nevertheless, videogames like *Tempest* (1981) showed that there was room in the entertainment industry for strong aesthetic experiences. One of the prime intentions of this dissertation is to study various videogames, among other artworks, and not only to characterize but also interpret their *mise-en-jeu* and the messages it evokes.

One of the key aspects of videogames as an audiovisual medium, aside from their interactive nature, is the power to immerse players in alternate realities. To understand their symbology, we must first acknowledge that those proxy realities change a player's consciousness, when they are responding to inputs from the physical devices, such as the haptic feedback from a controller, and to information that arrives through the mediated space of the videogame. This mediated space has, over the decades after the invention of the videogame in the middle of the twentieth-century, been brought to some standardization of how it should be presented to players in order to better fulfil its role in storytelling. The *mise-en-jeu* of the mediated space has, for a time, tried to replicate the allure of other visual media that preceded videogames, as we can see with Cel Shading (see Figure 8), a rendering method used on 3D models to resemble cartoons.

Figure 8: A screenshot showing how a typical Cel Shaded videogame scene looks during a play session in Borderlands 2 *(2012).*

Videogames are however a medium with its very own traits, and while they may try to incorporate elements from other media, *the mise-en-jeu* has its own idiosyncrasies. In *Jet Set Radio Future* (2002) e.g., the designers try to bring the spirit of the skater culture, inspired by graffiti artists and hip-hop, into a cosmopolitan cyberspace. The game creators decided to put a black sketch tracing the player's character that not only serves to differentiate their avatar from all passers-by, but also to emphasize the world's cartoonish sparkle (see Figure 9). Despite their effort to carry the rules of visual information devices from comics, the videogame still obeys to rules that had to be put in place for it to function as a videogame. The characters are 3D rendered objects that react to dynamic lighting system and stylized light beams. While, at present date, we've grown accustomed to this sort of system to be in place in every professionally developed high budget videogame, we must analyse and understand its importance. In earlier videogames, such as *The Legend of Zelda: Ocarina of Time* (1998), we recognize that the lack of dynamic lighting affected the player's immersion in the game world. When the player character, Link, pushes a chest and the glaring light flows out, the shadows on Link's body and garments do not vanish.

Figure 9: A screenshot showing how the black lines and the appropriate colour saturation resultant of the Cel Shading technique makes the look of the videogame be distinctly cartoonish in Jet Set Radio Future (2002).

II.4. Exploring Concepts of *Mise-en-scène*

Although a number of studies, such as Ivan Girina's *Video Game Mise-en-scene Re-mediation of Cinematic Codes in Video Games* (2013), have examined the relevance of film-related analytical and theoretical tools for the analysis of videogames' *mise-en-scène*, there has not been a strong focus on providing an extensive framework that successfully adapts cinema's analytical tools into the videogame medium, taking in consideration the medium's specificity. As such, this study provides additional insights and a framework for the study of audiovisual conventions in modern videogame creations. This research differs from previous studies by identifying and documenting all variables found in common analytical film

tools and adapting them to the videogame medium, while adding pertinent variables that weren't found in film studies, but which analysis' makes sense due to their characteristic and symbolic nature in videogames.

Before we define and create a framework for the analysis of *mise-en-jeu*, we need to look at and define what *mise-en-scène* is. Seeing that it's called film criticism's best analytical tool, but at the same time its "grand undefined term" (Nichols, 1976:315), we need to define a single source as our starting point for defining and exploring *mise-en-scène* and its various branches, in order to stay coherent and transpicuous. We opted for the usage of Louis Giannetti's *Understanding Movies* (2014) because of its large scope and due to its high adoption rate, being cited in 892 studies according to citation tracking platforms.[34]

Mise-en-scène comes from the French language where it began being is used as a theatrical concept for *placing on stage*. Giannetti tells us that "the phrase refers to the arrangement of all the visual elements of a theatrical production within a given playing area—the stage" (2014:47).

The author refers that in movies, this terminology is more ambiguous and is used to describe "a blend of the visual conventions of the live theater with those of painting." In a similar fashion to what happens in theatre, filmmakers arrange objects and actors within a determined three-dimensional space that is to be photographed, and once photography has occurred, it's converted into a two-dimensional image, be it digital or analogue. He adds that "the space in the world of the movie is not the same as that occupied by the audience. Only the image exists in the same physical area, like a picture in an art gallery." *Mise-en-scène*, applied to cinema, resembles other arts such as painting and photography, therein an image of regular patterns and forms is presented on a flat area and is placed within a frame. But cinematic *mise-en-scène* "is also a fluid choreographing of visual elements that are constantly in flux" (ibid.).

According to Giannetti, the main aspects to take into consideration in *mise-en-scène* are the following: *The Frame*, *Composition and Design*, *Territorial Space*, *Proxemic Patterns*,

[34] Last verified on Google Scholar on the 17th of May of 2018.

and *Open and Closed Forms*. Within these key topics, Giannetti identified fifteen elements that constitute the framework of what and how we should analyse a film, which are: *Dominant*, *Lighting key*, *Shot and camera proxemics*, *Angle*, *Colour values*, *Lens/filter/stock*, *Subsidiary contrasts*, *Density*, *Composition*, *Form*, *Framing*, *Depth*, *Character placement*, *Staging positions*, and *Character proxemics*. These are the analytical tools that compose *mise-en-scène* in cinema and, because of that, in the following paragraphs we will be exploring what they're exact significance and how they're analysed, so that, later, we can use these concepts in the construction of our *mise-en-jeu* framework.

II.4.1. Dominant

We can observe the *dominant* by noticing all elements within the frame and paying attention to where is our eye attracted first and why is it any given element. That element constitutes the *dominant*. A frequent way of creating a contrast on the image that points us to the *dominant* is by using a three-point lighting[35] scheme.

II.4.2. Lighting Key

Usually, the cinematographer[36] oversees the arrangement and the control of the lighting of a film. There are several distinct approaches to lighting. For the most part, this is named the *lighting key* and its style is adapted to the theme and atmosphere of a film. The main *lighting key* schemes consist of *high key*, *low key* and *high contrast* lighting. Other schemes are frequently invented by combining these (Giannetti, 2014:17).

[35] A common technique of lighting a scene from three sources. The key light is the main source of illumination (Giannetti, 2014:528).

[36] Who is also known as the director of photography, or DP.

Figure 10: A comparison between high key, low key and high contrast lighting schemes with shots from Citizen Kane *(1941) to the left and* Rear Window *(1954) to the right.*

II.4.3. Shot and Camera Proxemics

Proxemics deals with the amount of space that we find necessary to set between two things. Here, we analyse the type of shot and verify how far away is the camera from the action. Giannetti accepts that there are various kinds of shots in film but resumes them to six basic categories: the *extreme long shot*, the *long shot*, the *full shot*, the *medium shot*, the *close-up*, and the *extreme close-up*. The deep-focus shot is usually a variation of the long shot (Giannetti, 2014:9). In Figure 11 we can observe the difference between all these six types of shots, along with some sub-types.

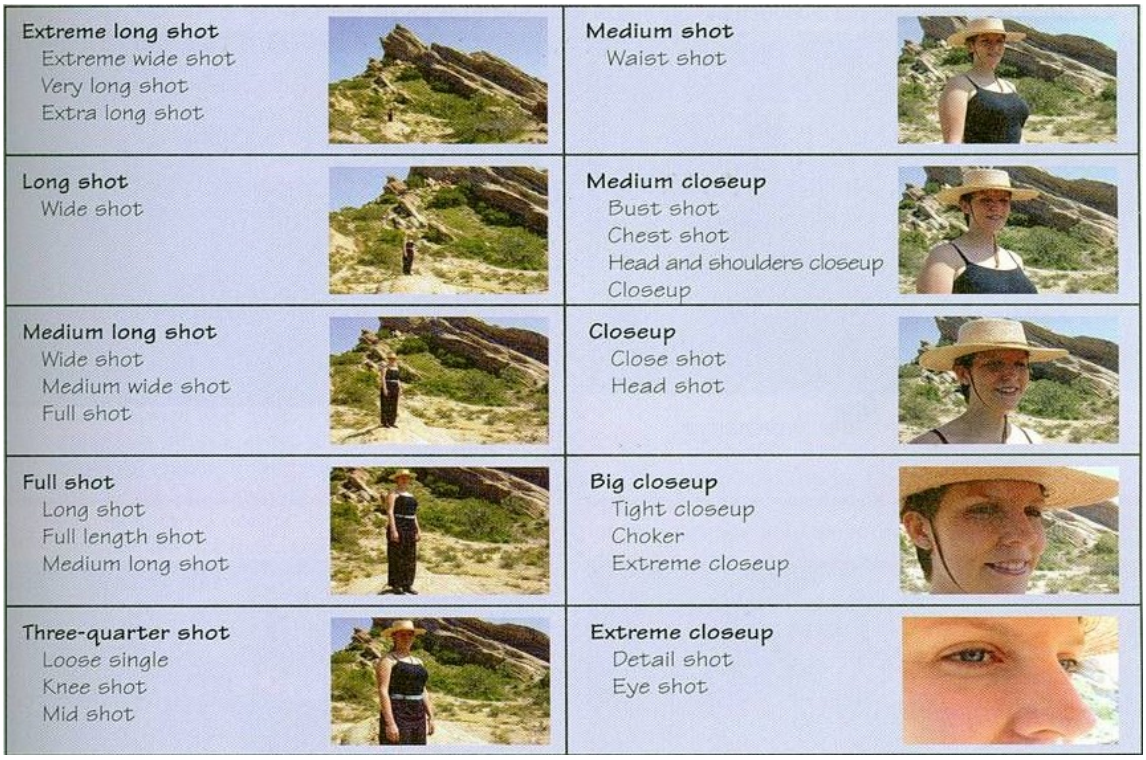

Figure 11: A comparison between the distance in different types of shots, along with alternative terminology used by other authors (Jason Ellis, c. 2016).

The shot also helps determine the camera proxemic range. Usually, filmmakers use combinations of different shots to convey the action of a scene. What determines their choice is the emotional impact of the different proxemic ranges. These ranges have social connotations and the author associates the *intimate* range with close and extreme close shots, the *personal* range with the medium close shot, the *social* range with the medium and full shots, and the *public* range with the long and extreme long shots (Giannetti, 2014:82).

II.4.4. Angle

Giannetti points out five basic angles in the cinema: the *bird's-eye view*, the *high angle*, the *eye-level shot*, the *low angle*, and the *oblique angle*. In Figures 12 and 13[37] we can observe the relationship between the camera and the subject at different angles. Overall, "the more extreme the angle, the more distracting and conspicuous it is in terms of the subject matter being photographed" (Giannetti, 2014:13).

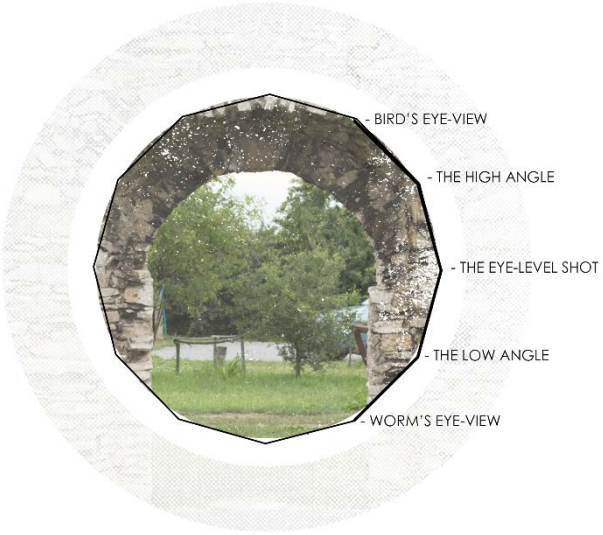

Figure 12: A comparison between the position of the camera, in relation to the subject in different types of camera angles.

[37] Note that, in Figure 12, the eye-level shot is described as *neutral view,* and that the oblique angle is only shown in Figure 13.

Figure 13: An example of the oblique camera angle, also known as Dutch-shot, in which the camera is tilted, shown here in The Third Man *(1949).*

II.4.5. Colour Values

In this variable we observe what is the dominant colour, if there are any contrasting foil and if any colour symbolism is detectable. Colour tends to be a subliminal feature in film. It's powerfully emotional in its allure, expressive and climatic instead of intellectual. Psychologists found that nearly everyone actively attempts to interpret the lines of a composition, but usually accept colour passively, allowing it to suggest an atmosphere rather than objects (Giannetti, 2014:23).

Figure 14: In this screenshot from The Matrix *(1999), the dominant colour of the shot is dirty green, which is the colour of the* fake *world within The Matrix and creates a mood in which the world is* sick *(Young, 2018:para.3).*

II.4.6. Lens/Filter/Stock

The author offers a brief comment on how these elements should be analysed: "How do these distort or comment on the photographed materials?" (Giannetti, 2014:92)

To verify its importance, we must take in consideration that these elements directly affect the film's photography. Lens have wide varieties of both focal distances and aperture values, filters mostly alter chromatic values and material reflections, and stock is the material in which the film is shot in. In films shot in analogue stock, a sheet of transparent plastic film base is used, and both the size and granularity of the material can affect the image. Films shot on digital cameras use sensors that also vary in size but also in number, and another factor, white balance, also affects the result if the camera can't shoot on a RAW video format.[38]

[38] A camera RAW file contains minimally processed data from the image sensor of the digital video camera. This allows for post-production colour balancing and manipulation with minimal damage to image quality.

Figure 15: A wide-angle lens is used in this scene from Lost Highway *(1997), which gives a distorted look to it, in order to emphasize the mood of confinement.*

II.4.7. Subsidiary Contrasts

After observing the *dominant,* we need to pay attention to which elements within the frame are our eyes attracted immediately after and why those are our main eye-stops after taking in the *dominant*. Those elements are what the author calls *subsidiary contrasts*.

Filmmakers arrange the *dominant* and the *subsidiary contrasts* so that they act as counterbalancing devices. “Our eyes are seldom at rest with visual compositions, then, even with paintings or still photographs.” We examine a particular element first, then we glance at regions of diminishing attraction. This isn’t accidental, for composers deliberately design their images so that “a specific sequence is followed” (Giannetti, 2014:64).

Figure 16: In this scene from Mistérios de Lisboa *(2010), the leftmost character is the subsidiary contrast, as he doesn't stand out as much as the one on the right.*

II.4.8. Density

Density refers to "how much visual information is packed into the image" and the quality of textures. This is examined by qualifying and quantifying the number of visual features in any given image. It is also important to access why that amount is present and how. The amount of light "thrown on the subject matter" can moderate the density of a texture. This degree of denseness is frequently an allegorical parallel of the "quality of life in the world of the film" (Giannetti, 2014:73).

Figure 17: An example of a scene with high density and very detailed textures. Aside from the large amount of visual diversity, each element has a symbolic importance in the context of the film, which is Про уродов и людей *(translit.* Pro urodov i lyudey*) (1998).*

II.4.9. Composition

When shooting a movie, artists capture materials from a world that exists in three dimensions, however, much like a painter that observes a still life in three dimension, filmmakers face the dilemma of depicting a world in two dimensions and must plan the arrangement of shapes, colours, lines, and textures for flat rectangular surface with only vertical and horizontal axes. When analysing the *composition*, we have to verify how the two-dimensional space is segmented and organized, and what the underlying design is (Giannetti, 2014:92).

Figure 18: The use of various diagonal lines in the composition of this shot from Love *(2015) suggests an environment with a lot of movement, as well as confusion.*

II.4.10. Form

The idea of *open* and *closed* forms is usually associated with traditional visual fine arts[39], but it is useful in film analysis too. An open form "emphasizes informal, unobtrusive compositions", while a closed form "emphasizes a more stylized design." In open-form images, "the frame tends to be de-emphasized" and space is continuous, so that it emphasizes its continuity outside the frame. In closed-form images, "the shot represents a miniature proscenium arch", including all the necessary elements carefully ordered within the boundaries of the frame. Space appears enclosed and self-contained instead of continuous (Giannetti, 2014:88).

II.4.11. Framing

This element is essentially concerned with how much room characters have available to move around in the frame, and it can be described as *tight* and *loose*. *Loose* framing usually appears in longer shots and, when it occurs, the *mise-en-scène* is very spacious

[39] Historically, the five main fine arts were painting, sculpture, architecture, music, and poetry, with performing arts including theatre and dance.

around the characters, allowing for the people photographed to “have considerable freedom of movement” (Giannetti, 2014:525). *Tight* framing usually appears in close shots and, when it occurs, the *mise-en-scène* “is so carefully balanced and harmonized that the people photographed have little or no freedom of movement” (Giannetti, 2014:529).

Figure 19: A loose scene in Philip K. Dick's Electric Dreams *(2017), in which the characters have a lot of space to move around.*

II.4.12. Depth

An optical phenomenon, depth of field can be used to emphasize a subject while de-emphasizing the foreground and background. When we have a small depth of field, the emphasized element will appear sharp, while all other elements will appear blurrier, as they’re out of focus. In Figure 20 we demonstrate what happens when the same object is photographed with a small and a large depth of field.

Figure 20: The difference between a large and a small depth of field (Brooke Nelson, 2016).[40]

When analysing a film's depth, we have to take into account the number of planes that compose the image, and if the background or foreground comments in any way on the midground (Giannetti, 2014:92).

II.4.13. Character Placement

Various regions of the frame can convey figurative concepts. The placement of an element within a region of the frame can alter the filmmakers' comment on that element. Every main division of the frame (centre, top, bottom, and sides) "can be exploited for such symbolic purposes" (Giannetti, 2014:53).

Within *mise-en-scène* analysis, we need to verify which part of the framed space the characters occupy and what is the reason for that.

[40] Changes have been made to the image in raster graphics editing software.

II.4.14. Staging Positions

Filmmakers can express shifting psychological and social nuances by exploiting "the direction the characters are facing vis-à-vis the camera" (Giannetti, 2014:71). A character in a film may be shot in five fundamental positions, and each one of them conveys a distinct emotional suggestion: *full front*, *the quarter turn*, *profile*, *the three-quarter turn*, and *back to camera*.

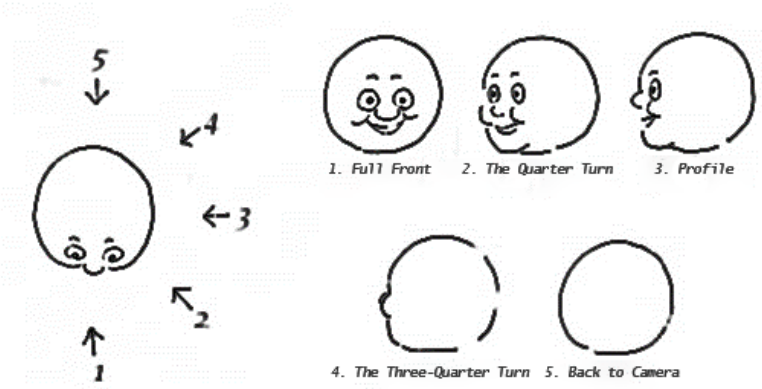

Figure 21: An illustrative comparison between the 5 main staging positions (Midori Kitagawa, n.d.).[41]

Since spectators identify themselves along what's shown in the mediated space, "the positioning of the actor vis-à-vis the camera will determine many of our reactions. The more we see of the actor's face, the greater our sense of privileged intimacy" (Giannetti, 2014:74).

[41] Changes have been made to the image in raster graphics editing software.

II.4.15. Character Proxemics

Here, the author starts by introducing us to anthropologist Edward T. Hall's concept of proxemic patterns,[42] which we already explored briefly in the *Shot and camera proxemics* section. Essentially, there are four main proxemic patterns: *intimate*, *personal*, *social*, and *public*. From shot to shot, the proxemic range between the characters in a film suggests totally different undertones, which is what we evaluate in this element of the *mise-en-scène*.

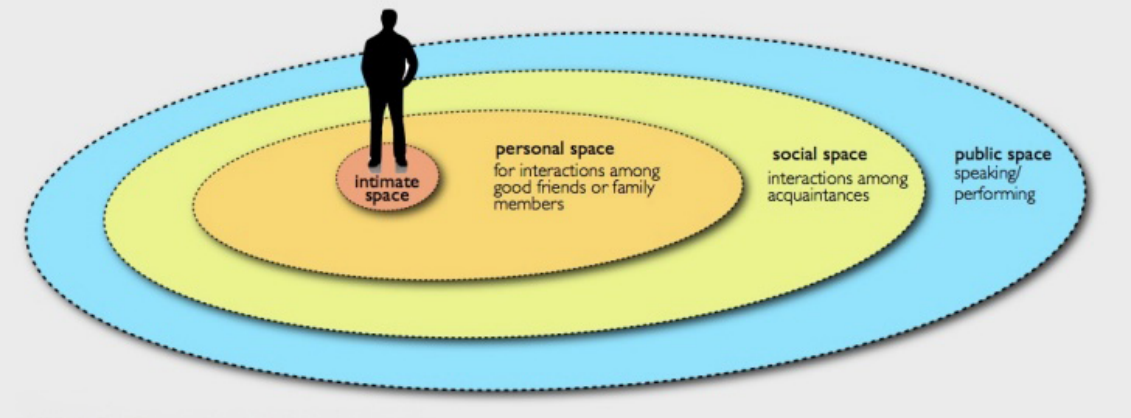

Figure 22: Illustration of the spaces in the psychology of proxemics (Tim Stock, 2011).[43]

II.5. A Framework for the Analysis of the *Mise-en-jeu*

This study uses medium specific terminology that, while constructed upon that of cinematic tools, is used to construct a model which helps with the analysis of videogames. We intend to construct a framework that's understandable, precise and predictive, so that it may be used as a progressive tool by anyone who aspires to understand the screen mediated space as a channel of communication and arrangement of videogames. In the following examinations we introduce and describe the videogame-specific nomenclatures,

[42] Drafted in Hall's *The Hidden Dimension* (1966).

[43] Changes have been made to the image in raster graphics editing software.

the concepts associated with them, how we can we use those for an analysis and what we might get out of that.

The dissertation differs from other studies on videogame design. It owes a factual and interpretative debt to both narratology and ludology. In some respects, it has benefited from the Eye Space framework presented by Yu-Ching Chang and Chi-Min Hsieh, and from Michael Nitsche's treatment of videogame spaces. This framework presents a broad perspective on *mise-en-jeu* with a consistent effort to provide other researchers with the tools to continue exploring how the visual aspects of a videogame and the mediated space affect the fictional space. It is given a great attention into providing concepts that are apt and native to the videogame medium, even with the inferred influence from cinema, due to its history and established research tools.

II.5.1. On the Exclusion of Some Variables from Our Analysis

There some elements that directly affect the composition and will not be included in our framework. Here, we clarify why they were left out and provide a brief explanation of their function, as well as some studies that have addressed their importance in videogames.

II.5.1.1. The Dominant and Subsidiary Contrasts

Visual attention is a principal constituent in scene analysis and comprehension, and we use eye motion to examine intricate everyday scenes in real time (Tatler, 2017:74). In the analysis of Renaissance art, researchers have identified the vanishing point (VP)[44] as an essential element of many artworks. The VP is the location on the horizon to which the

[44] In film studies, the VP is often colloquially referred to as the dominant.

close parallel lines appear to converge.[45] Studies have shown that the VP attracts eye movements when we're analysing any given scene for the first time (Borji et al, 2015:1).

In cinema and computer animation, researchers prefer to review aesthetics through the examination of a combination of camera placement, camera movement and, in the latter, virtual camera, in which they incorporate the vanishing point as the "spatio–temporal moment of a scene where vision perspective converges to a refined, accessible point. This vanishing point is highly mobile, deliberately functional, perspectively omnipresent, unmediated and tangibly focused on a viewer experience that is pure and unique cinema." (Jones, 2007:241)

In videogames, the virtual camera is inherent and native to the medium[46], leaving the navigation of space to the player,[47] as opposed to cinema and animation, in which the filmmakers guide the viewer through the diegetic space. Regarding space navigation, Mark Wolf remarks that "many games have spaces so elaborate that spatial navigation becomes an important part of gameplay. Navigation is an interaction with space itself, a space through which one actively makes choices to find one's way around. Navigation involves freedom of movement and connected spaces, the connections of which are explored and learned through navigation." (2012:433) Since players are tasked with the management of navigation in space, while controlling the playable character, their visual attention will, at most times, be dedicated to the Primary Subject since, as Yu-Ching Chang and Chi-Min Hsieh have shown, "in eye space games, the primary subject is akin to the center of interest, (…) the core of the composition, and the most interesting part for viewers." (2017:87)

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[45] In photography, the analogous term is centre of interest (Datta et al, 2006:293).

[46] Since virtual worlds are computer-based simulated environments, in order to explore the virtual world, players always face the notion of a virtual camera, whether it is imagined or actually exists as part of the system. As such, all videogames have virtual cameras, that can either be rule-based or conceptual, the latter mostly when we're discussing spaces in 2D videogames.

[47] "...the movement of the game-camera is constrained by a number of aspects, such as the limitations of the avatar (e.g., it does not fly or pass through walls), and more generally, the game's physics (e.g., the player can only travel at a 'running' pace), the geometry of the spaces travelled through, and the physical ability of the player to engage in dexterous manipulations" of game controllers (Reeves, Brown
and Laurier, cited in Reeves and Laurier, 2014:249).

However, we are not taking the Vanishing Point into consideration for our framework, since we already know from Chang and Hsieh's work that the VP has been identified as always being the Primary Subject. While we could investigate what forms the core of the composition, the authors' thesis has already identified those elements in their description of the Primary Subject. Likewise, the framework theorized by Chang and Hsieh also identified the *distractions*, the *backdrop* and the *guiding information*, which are analogous to the subsidiary contrasts that Giannetti describes in film, although Chang and Hsieh's tools are more detailed than Giannetti's, leaving the subsidiary contrasts an element that we don't need to take into consideration in our framework.

II.5.1.2. Colour Values

Colour compositions need a deep analysis regarding many variables, and that task would require a more extensive timetable if it was to be included in our dissertation. We recommend the examination of studies published in recent years which, to our understanding, already cover the importance of colour in the *mise-en-scène*, such as Emma Dickmark's *The Use of Colour in the Game Journey* (2015), Erik Geslin et al.'s *How Color Properties Can Be Used to Elicit Emotions in Video Games* (2016), Heather Logas and Daniel Muller's *Mise-en-scène Applied to Level Design: Adapting a Holistic Approach to Level Design* (2005) and Doug Stewart's *Color in Video Games: How to Choose a Palette* (2017). Never the less, due to its importance, we include a brief description of the impact of some colour-related variables (without debating the importance of specific colours) in *mise-en-jeu*, so that the reader can gain some basic understanding of them all, complementing the rest of the information about composition in the screen-mediated space.

Brightness and contrast are often thought to be some of the simplest factors as they've all been matured since the existence of colour TV (Macintyre, 1969:1). The public often neglects the fact that the two are connected, however, and alterations in their values can completely change the perceived mood of any work of art. While we will be focusing

mainly on these factors since this is complementary information, we also acknowledge the existence and importance (Shahid et al., 2014) of the following ones and will briefly discuss them: Saturation, Sharpness, Noise, Dynamic Range, Tone Reproduction, Colour Accuracy, Distortion, Vignetting, Exposure Accuracy, Lateral Chromatic Aberration (LCA), Lens Flare, Colour Moiré and Artefacts. These last elements are partly analogous to film's *lens/filter/stock*, since in videogames those elements aren't native as they are in film. Instead videogames have the other factors that we mentioned previously, such as saturation and artefacts.

II.5.1.3. Brightness

First, we must address our choice on the term *Brightness* instead of *Luminosity* and how we define it. We opted for the first since *Luminosity* is a term more often associated with astronomy.[48] In this dissertation, we will be defining brightness as the amount of light emitted from a certain light source as an in-game object, please note that *screen brightness* is the amount of light manifested by a certain screen and is always depends on hardware, and as a result won't be the focus of this research.

Our visual perception of a game world can change depending on how an object appears to be lighted. Take for example, the sky in the *Souls* series (2009-2016). When it's much brighter the player might sense that they're still being introduced to the game world and that the sun still shines, leading them to believe that they are in an area that isn't too dangerous, however, when the sky is darker, and they're given the impression that there isn't much light, they will feel like their current location has sunken under darkness and tougher enemies might be ahead, maybe even a boss fight (see Figures 23a and 23b).

[48] When searching *Google Scholar* for the term *Luminosity,* all ten results of the first page were related to astronomy. An equivalent search for *Brightness* returned results related to physics, electronics engineering and psychology and, as such, we found that the latter term would more adequate for our research. We consulted the website on the 10th of December of 2017.

Figure 23a and Figure 23b: Dark Souls III *(2016)*

Brightness is also frequently used as a common indicator to the player, both in the environment and the graphical user interface (GUI). This is evident e.g. in *Uncharted 4: A Thief's End* (2016) where a ray of light will often go through destructible places in the environment (see Figure 24) and in *Gravity Rush 2* (2017) where there's very bright indication in the blue gravity gauge whenever the player character loses or gains energy (see Figure 25).

Figure 24: Uncharted 4: A Thief's End *(2016)*

Figure 25: Gravity Rush 2 *(2017)*

At the core of the composition, in third-person view videogames, we usually find the player character. As we can observe in Figure 25, brightness can also be used to represent a change in the status of the character, in this case to indicate that the player is actively controlling gravity. This effect, called *Bloom* (Kalogirou, 2006), is usually also utilized to highlight objects and items in the environment so that they catch the player's attention, observable in many videogames as glowing outline of the object.

II.5.1.4. Contrast

In the visual arts**,** contrast is a factor that allows artists and designers to set some accessibility standards, but its reach, and importance goes far beyond that. These are the most frequent types: Tonal Contrast (TC) and Colour Contrast (CC). TC concerns the distinction in tones, separating the lightest tones from the darkest ones, that is, the distinctness in chromatic tones from white to black. CC alludes to the fashion in which colours relate with one another (Chevreul, 1855:7).

Figure 26: Psychonauts *(2005) and Histogram*

The utilization of tonal contrast varies between videogames, so we're going to look at some examples of different approaches to tonal contrast and dissect them. In our first illustration we have a screenshot from *Psychonauts* (2005) in which we have a somewhat narrow tonal range with much more expression in the midtones, although we can also see some tonal distribution indicating that this image tends to lean on the low key. There's a small peak in the shadow regions and a clipping to pure black with a relatively high number of pixels in the far left and no pure whites. While there's clear evidence of high pixel count in middle-shadows to midtones, there's little information in the highlights. The high amount of colour information that exists specifically in the middle-shadows to midtones is the result of the combination of the dark primary colours that we can observe in the screen-shot creates a sense of a badly lit scenario while still being perceived as colourful. This sort of distribution allows for the players to feel as if they're in a world that is a bit stylized, but not too much, giving it a sense of seriousness amidst the playful scenario, and this seriousness is transmitted through the darkness of those primary colours. Being an image with tendency to neighbour low-keys but with a little bit more contrast, leaves the player with a sense of homogeneity of the game-world elements, although it is one with a small range of luminance present in the environment.

Figure 27: Horizon: Zero Dawn *(2017) and Histogram*

The histogram on Figure 27 shows us that in *Horizon: Zero Dawn* (2017) colours are distributed much more evenly across all tones except for white, which means that the player will be able to distinguish information with more ease whenever there is a peak in any tonality since there is no peak in no other zone,[49] while leaving some space for presence of all tonalities in the scenario, albeit with reduced expression. Sometimes, scenarios of high contrast and extreme clipping are presented to the player to heighten a sense of drama or power (see Figure 28).

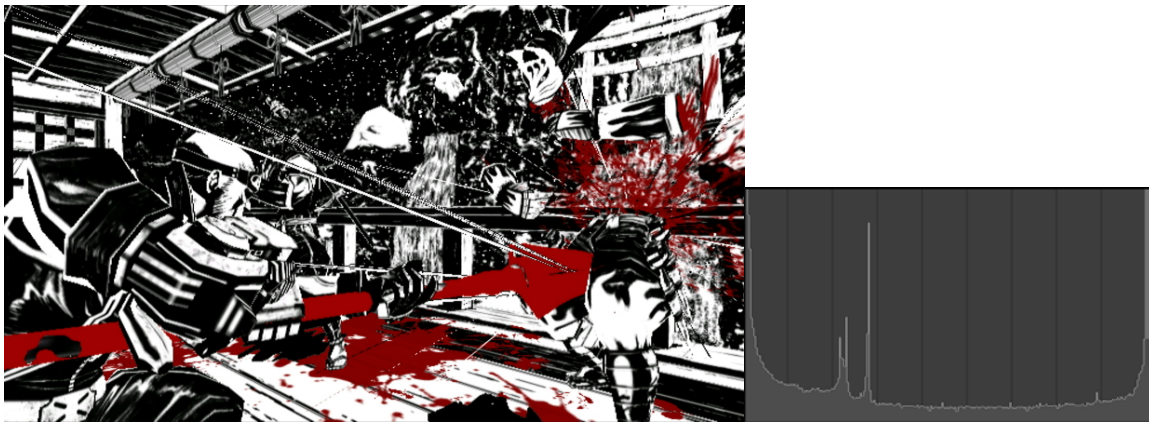


Figure 28: MadWorld *(2009) and Histogram*

[49] We acknowledge a slight peak in the shadows due to terrain information, but find that detail irrelevant for our discourse.

Aside from the influence of tonal contrast, players are also persuaded by colour contrast that functions with several variables. The contrast of hue can mark the difference in subtlety of some of the elements of the mediated space. E.g., highly contrasting colours such as pink and green can be useful in helping the player track an enemy character (see Figure 29) or read quick notices in fast-paced videogames.

Figure 29: Yooka-Laylee *(2017)*

Utilizing a cold-warm contrast is also one of the ways that videogame designers can emphasize some elements that establish the mood of the game world, such as a campfire in 2017's *The Legend of Zelda: Breath of the Wild*'s Snowy Peaks. Contrast of extension, meaning the contrast in the size of two colour-dominated areas (Itten and Birren, 1970:59), helps to focus the player in a specific location and can be an advantage in persuading them to imagine that one of the elements is further away than the other (see Figure 30).

Figure 30: Mass Effect: Andromeda *(2017)*

In a similar fashion to our analysis of single colour significance, tonal contrast and colour contrast in videogames appears to comply with the overall rules of established frameworks for colour analysis in the arts such as Michel Eugène Chevreul's *The Principles of Harmony and Contrast of Colours* (1855), Albert Henry Munsell's *Munsell Soil Color Charts* (1975), Faber Birren's *The Elements of Color; A Treatise on the Color System of Johannes Itten, Based on His Book The Art of Color* (1970), Renae Knapp and Dee Dorr's *Beyond the Color Explosion: The Color Key Program* (1985) and Suzanne Caygill's *Color, The Essence of You* (1980), although our data must still be triangulated in future studies.

II.5.1.5. Supplementary Factors

As previous studies prove (Geslin et al, 2016:2), desaturation in the mediated space induces negative valence, while the use of strong colours induces positive valence[50] (see

[50] Valence, as used in psychology, especially in discussing emotions, means the intrinsic attractiveness/"good"-ness (positive valence) or averseness/"bad"-ness (negative valence) of an event, object, or situation. (Frijda, 1986:207)

Figure 31). We believe that this is the reason why e.g. 2010s' *id Software* videogames are frequently considered nerve-racking, horrifying and cheerless while Mojang's *Minecraft* (2011) is regarded as inspiring, happy and dazzling.

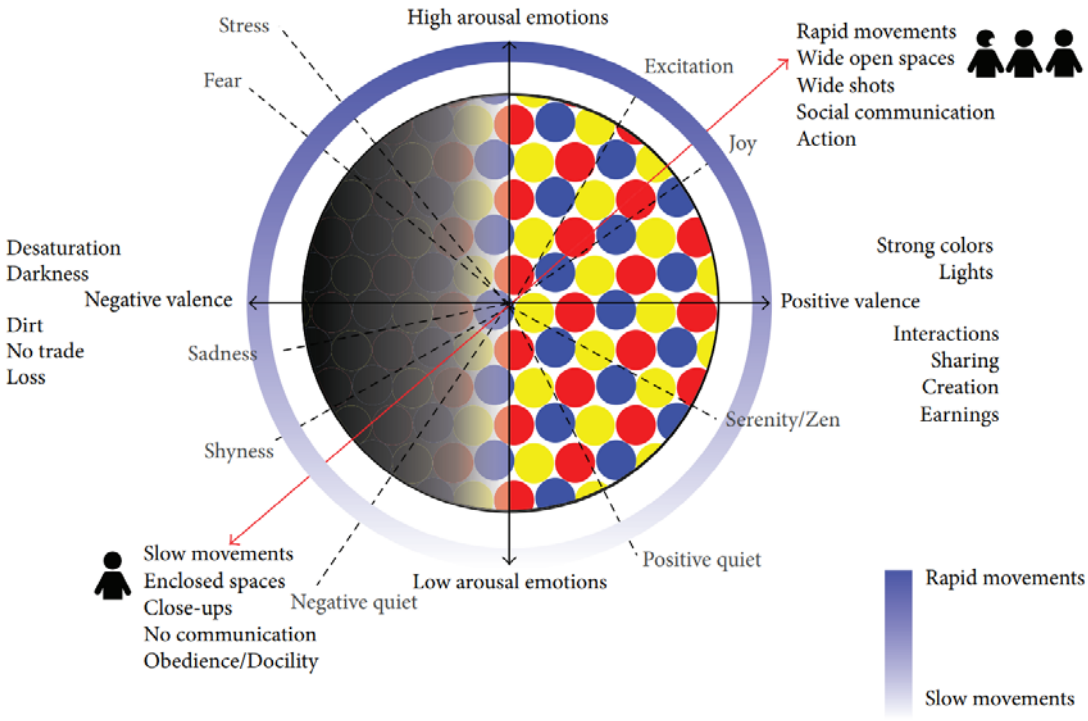


Figure 31: Circumplex model for emotions induction in videogames and virtual environments (Erik Geslin, 2016).

The most common use of sharpness variation in videogames is through area-privileged motion blur, towards giving the player a sense of accelerated motion and tunnel vision as we can observe in titles like *Need for Speed: Most Wanted* (2005) (see Figure 32) and informing (along with the use of Vignetting) that the player's health is low as apparent in *Far Cry 3* (2012) (see Figure 33). Blurring of objects is also used in various videogames as a way of guiding the player towards certain objects, e.g. in *Limbo* (2010), certain objects will come out of blur into sharper detail when the player approaches them, informing them that they should interact with the object to solve game puzzles.

Figure 32: Need for Speed: Most Wanted *(2005).*

Figure 33: Far Cry 3 *(2012)*

Colour accuracy and reproduction is one element that while not as actively used as others, also brings interesting results to the mediated space. One such example of that is the conversion from a coloured world into a greyscale one whenever the player's health is low in *NieR: Automata* (2017). In the same videogame, when the player is in a space bunker, the screen again becomes completely black and white to make said bunker appear to the player as inorganic and bleak in contrast to the natural parts of the surface of the Earth (see Figures 34a and 34b).

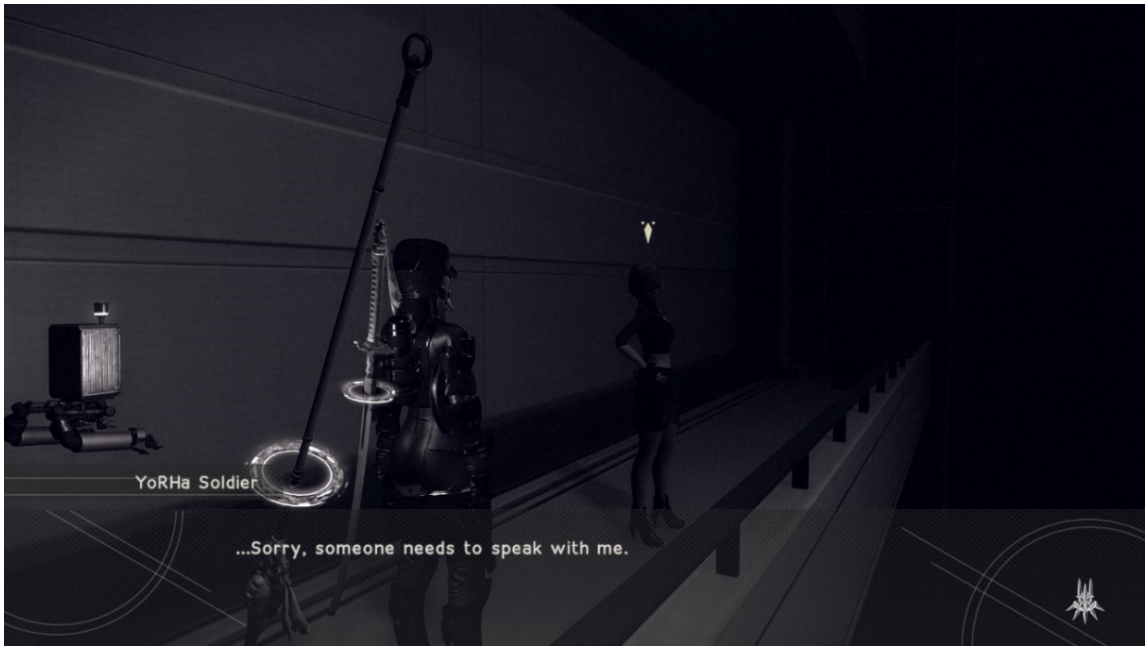


Figure 34a and Figure 34b: NieR: Automata *(2017)*

This videogame also presents another factor of screen-mediated image composition common in videogames: the glitch. It's used here when the player character (an android) starts to malfunction and represents the disconnection happening inside the character but

also represents the disconnection between the player and that character, since it's the last time the player will use it in that timeline.[51]

The last factor we wish to explore is the deliberate use of chromatic aberration in some videogames. Mostly, it's used to simulate distances, as it dazes the image meaning that it gives it an effect of being out of focus, it's use is adequate when videogame designers are trying to induce a sense of tension and distress in the player, as seen in *Bloodborne* (2015) (see Figure 35), and is even more effective in inciting those feeling in the player when used alongside dynamic depth of field since this technical effect emphasizes even more the sense of distance.

Figure 35: Detail from Bloodborne *(2015). This videogame makes heavy use of chromatic aberration (as seen clearly here on the fencing, for example) throughout the whole game world, in order to induce a sense of tension and distress in the player.*

[51] In this videogame, which has multiple endings, the players need to go through at least 3 distinct parallel timelines in order to reach the final ending, and in each timeline, the player character differs.

II.5.2. Lighting Key

Like in film, in videogames it's possible and important to analyse the *lighting key*, since every element and detail support and are supported by the light. Light is used to create a certain kind of mood. Knowing how and when to use it is an important creative tool, as it is knowing when to mix different types of light. When describing light in a videogame we have to assess why certain types of light lead to any given atmosphere and style. By creating a taxonomy of the *lighting key* in different scenes in a videogame, researchers can than find patterns and evaluate how different keys affect the mood of the scene in distinct genres.

There are three main types of light to take into account when dissecting a scene: *high-key*, *low-key* and *high-contrast* lighting. *High-key* lighting promotes intense, uniform light and few apparent dark spots. *Low-key* lighting promotes shadows that are scattered across the scene and large hazy zones of illumination. *High-contrast* lighting promotes a mixture sharp beams of illumination and sudden traces of darkness.

Figure 36a, Figure 36b and Figure 36c: A comparative illustration demonstrating the differences between high-key, low-key and high-contrast lighting, respectively. Videogames: Mirror's Edge *(2008) and* The Witcher 3: Wild Hunt *(2015).*

II.5.3. Camera Proxemics

Videogames make use of a virtual camera system, which can either move as reaction to player's actions in the game world or be controlled directly by the player. Even in videogames where, technically, there is no virtual camera system in place, like most of the videogames produced in the 1980s, there is always something akin to a camera

represented in the mediated space. Despite the player's ability to control the camera angle directly, like in most recent 3D videogames, the distance between the camera and the primary subject is almost always contextual and changes as a reaction to player action and narrative progression.

The shot distance and proxemics in videogames are analogous to film, which means that we have six basic categories: the *extreme long shot*, the *long shot*, the *full shot*, the *medium shot*, the *close-up*, and the *extreme close-up*. When considering what elements in the frame we take into consideration for evaluating the shot, we must always look at the Primary subject, since it is analogous to film's *dominant*.

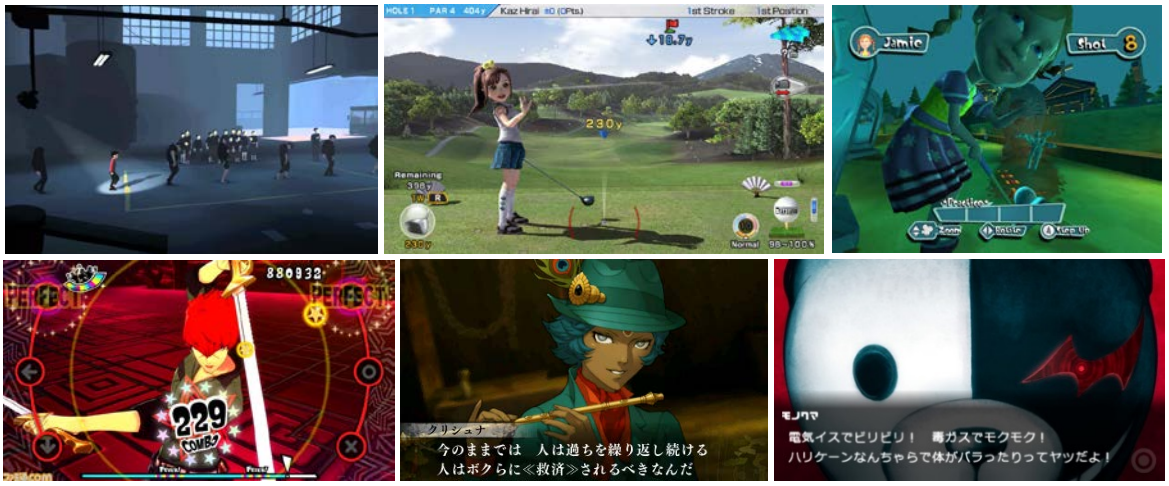


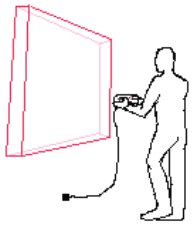
Figure 37a, Figure 37b, Figure 37c, Figure 37d, Figure 37e and Figure 37f: A comparative illustration demonstrating the differences between the extreme long shot, the long shot, the full shot, the medium shot, the close-up, and the extreme close-up, left to right and top to bottom. Videogames: INSIDE *(2016),* Everybody's Golf 6 *(2011),* Carnival Games: Mini-Golf *(2008),* Persona 3: Dancing Moon Night *(2018),* Shin Megami Tensei IV: Final *(2016) and* Danganronpa: The Academy of Hope and the High School Students of Despair *(2010).*

II.5.4. Camera Perspective

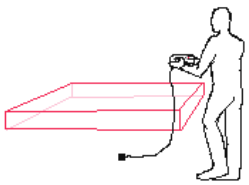
As a result of the lack of montage in videogames as we know it in film, camera angles change contextually with the narrative and, when a controllable 3D camera system is present, according to player action. For this reason, and because attention to camera angles isn't a native element in videogames, it would be fairly supererogatory to analyse camera

angles in a videogame. Rather, videogames have another element that is of more importance and is native to the medium: camera perspective.

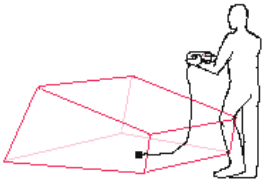
For analysing camera perspective, we subscribe Anjin Anhut's approach to the subject matter, noting that we disagree with the author's option on combining camera perspective and camera angles into a single concept. Anhut, in an article entitled *A Look inside – Evaluating Camera Angles for Immersion* (2011), defines the following five camera perspectives for analysis in videogames: *Side Scrolling*, *Isometric*, *Third-person*, *First-person* and *Over-the-shoulder*. Despite our subscription of the author's typology, we believe that a sixth perspective should be added – *Side Static* – because in videogames like *Donkey Kong* (1981), even though we see characters from a side perspective, the camera doesn't scroll, which leads us to believe that there is the necessity for this perspective to be added to Anhut's and other authors' typologies.



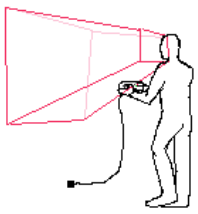
SIDE SCROLLING
LOOKING AT A SCENE FROM THE SIDE
PROTAGONISTS MOVES ON 2D LAYERS



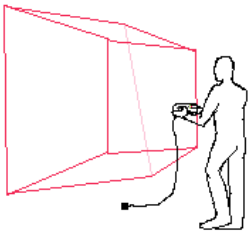
TOP-DOWN // ISOMETRIC
LOOKING AT THE SCENE FROM ABOVE



GENERAL THIRD PERSON VIEW
SLIGHTLY TOP-DOWN ANGLE



FIRST PERSON
THROUGH THE EYES OF PROTAGONIST



OVER THE SHOULDER
THIRD PERSON VIEW
ON EYE LEVEL WITH PROTAGONIST

Figure 38a, Figure 38b, Figure 38c, Figure 38d and Figure 38e: An illustrative comparison between Side Scrolling, Isometric, Third-person, First-person and Over-the-shoulder views (Anjin Anhut, 2011). The Side Static perspective can be described in the same manner as the Side Scrolling perspective, with the difference being that the camera is static.

II.5.5. Shapes

As we observed in our brief explanation of *mise-en-scène* for film, the exploration of *form* is a design principle that has been explored for as long as the classical arts have been exercised, due to its potential to be used to condition ambience in the structure of a work of art. In *The Aesthetics of Game Art and Game Design* (2013), Chris Solarski explored the psychology of shapes in videogames, indicating that, like how we observed in film, it is an important element of the *mise-en-jeu*. He starts out by informing us that following shapes are associated with the following aesthetic concepts in art: the *circle* is associated with innocence, youth, energy and femininity; the *square* is associated with maturity, stability, balance and stubbornness; and the *triangle* is associated with aggression, masculinity and force.

To illustrate how these concepts are integrated into videogames, Solarski gives us the basic example of some of the main characters in the *Super Mario* series.

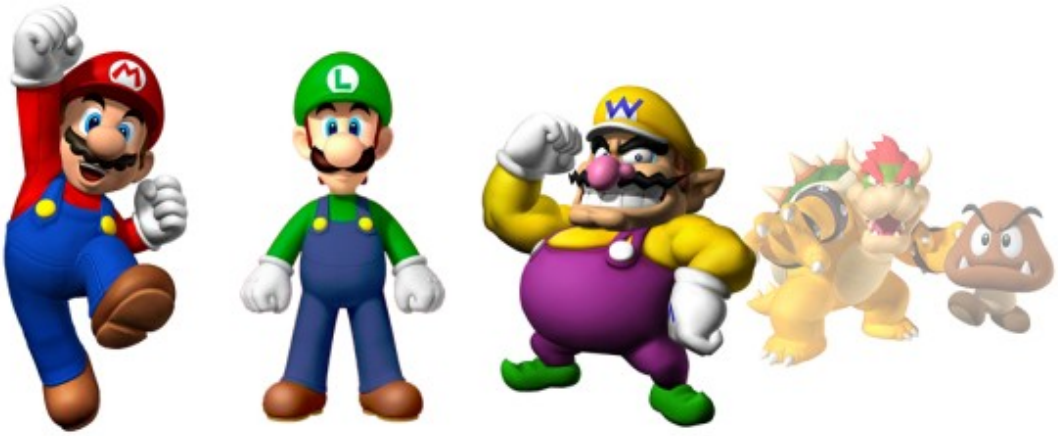


Figure 39: Nintendo characters from left to right: Mario, Luigi, Wario, Bowser, and a Goomba (Chris Solarski, 2013).

According to the author, Mario's *circular* design evidences the character's dynamic, youthful and positive personality, while Luigi's "supportive, brotherly personality can also be evidenced in the verticality of his figure, which references the *rectangle* in contrast to Mario's round shape." In the case of Wario, the character in the middle of the picture, is

aligned to the aggressive traits associated with the *triangle*. Most enemies in the series also have a triangular shape, which associates them with aggression and danger.

When analysing the mediated space, we must take into consideration these three primary shapes not only in the *primary subject,* but also in the *distractions*, the *backdrop* and the *guiding information*, and see how they affect the player's perception of the scene.

II.5.6. Area of Phase Space

Phase space is a concept in physics in which "it is a space representing all possible states of a system. Each possible state of the system corresponds to one unique point in the phase space" (Boldyreva and Dera, 2010).

Figure 40: A "grey box" level from the development of Deus Ex: Mankind Divided *(2016).*

In *The Aesthetic of Play* (2015), videogame designer Brian Upton takes this concept from physics and introduces it in the field of videogame studies by defining it as the limits that constraint characters movement, and calls it the *horizon of action*. Essentially, the possible points on a given space to which a character can go. If we take the example of the figure above, we can define the phase space of our avatar, for example, as the visible area

in the grid traced on the ground, it is the avatar's *horizon of action*: the possible regions it can go at any given time.

In film, Giannetti introduced a similar concept, which he called *Framing* and described it as the amount of room characters have available to move around in the frame. As in film it can be described as *tight* and *loose*, we believe that a similar description can be used in videogames, but instead of analysing *Framing*, we analyse the phase space, and need to take it contextually, since the phase space in videogames is constantly moving: for example, your path can at times be blocked by an undefeatable enemy or not, changing the area of phase space within the immediately visible mediated space.

II.5.7. Depth of Field

In film and photography, *depth of field* is a native factor because it is an optical phenomenon that cannot be avoided and changes according to the variations in the lens aperture and focal length, and according to the distance between the lens and the subject photographed. In videogames, however, *depth of field* isn't an element native to the medium, but rather an adaptation of the effect we see occurring naturally in photography into the virtual camera system as an optional graphical feature. This is evident in the fact that early videogames such as *Space Panic!* (1080) and *Donkey Kong* (1981), in which the depth of field effect is never present throughout the whole duration of the game levels.

Knowing this, when analysing depth of field in videogames, we should first verify if the effect is present at all in any of the levels or not, and if it is we must reflect on why it might be present in some situations instead of being applied to the whole videogame, in case it isn't. As an artistic element, we must observe what comments or ideas is the game designer trying to transmit when putting out of focus the back, middle or foreground.

II.5.8. Horizon of Intent

When we explored Brian Upton's *The Aesthetic of Play* (2015), we delve into the concept of *horizon of action*. It consists of a character's possible moves, however, Upton also provides us with the concept of *horizon of intent*, which represents your set of desirable moves, the ones the average player is more likely to feel the instinct to make.

The concepts of horizon of action and intent allow us to theorize that these replace film's *character placement*, *staging positions* and *character proxemics*, since all those elements aren't observable in the *mise-en-jeu* because, unlike in film, in most videogames the position of the player character and its relation to other characters is determined by the player, acting within the rules of the game and within possible exploits and bugs.

This does mean, however, that we need to determine what are players' *horizon of intent* within any given scene in a videogame. In that regard, we believe that one approach to analyse this is using a simple geometrical coordinate system. Each researcher might need to adapt that system to the needs of their research or according to a specific videogame genre, nonetheless we provide a simple one, that can be used as a starting point (Figure 41).

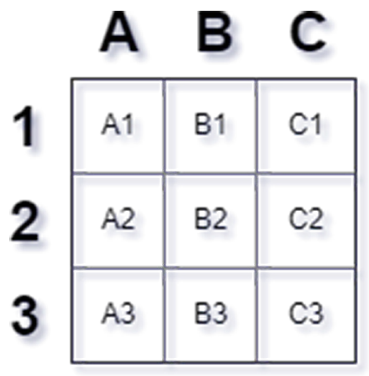


Figure 41: Gridded overlay graphic which can be used to map the position of an object in space.

This sort of coordinate plane can be used to divide the screen into nine or more parts, that the researcher can then use to point out and represent graphically the zones of the horizon of intent. This map makes use of a grid to make a note of an object's location. The letters on top, and the numbers the left edge are present so that the location of any object can be found by using the letter and number of its grid square.

II.5.9. Setting

In film, we recognized that, when analysing the *composition*, we verify how 2D space is organized and, when analysing *density*, we verify how many elements compose that organization. Be that as it may, in videogames we interact with a world that can either be explorable in two or three dimensions, and in which the display of elements at any given moment changes in reaction to player input and narrative progression, while films have a set duration in which, at any given time, what spectators see is determined by what the filmmakers decided to present in that specific moment of the film.

In literature-oriented *narratology*, *Setting* denotes a place of action and is established by fixed descriptions or by indirect references in the narrative in the narrative. Place imagery can be very vague and ambiguous, or a character can provide a very detailed description of the *Setting* (Lutwack, 1984:74). For this reason, we believe that in videogames, it's imperial that *Setting* strives to address primarily questions regarding location. How detailed that description is, however, depends entirely on the scope of the researcher and the necessities of the study. One may make a binary distinction of zones, choosing between interior or exterior, for example, or provide a detailed description of the arrangement of objects in the game world, if such is need for a specific study.

Closing Comments

To properly analyse the design of the mediated space in a videogame we need a set of tools that inform us on how this can be done, we need a *mise-en-jeu*. Taking inspiration from film studies, we adapted the tools of cinema's *mise-en-scènce* into instruments appropriate for use in research of the videogame medium. The *mise-en-jeu* comprises eight variables, which can present the results shown in the figure below.

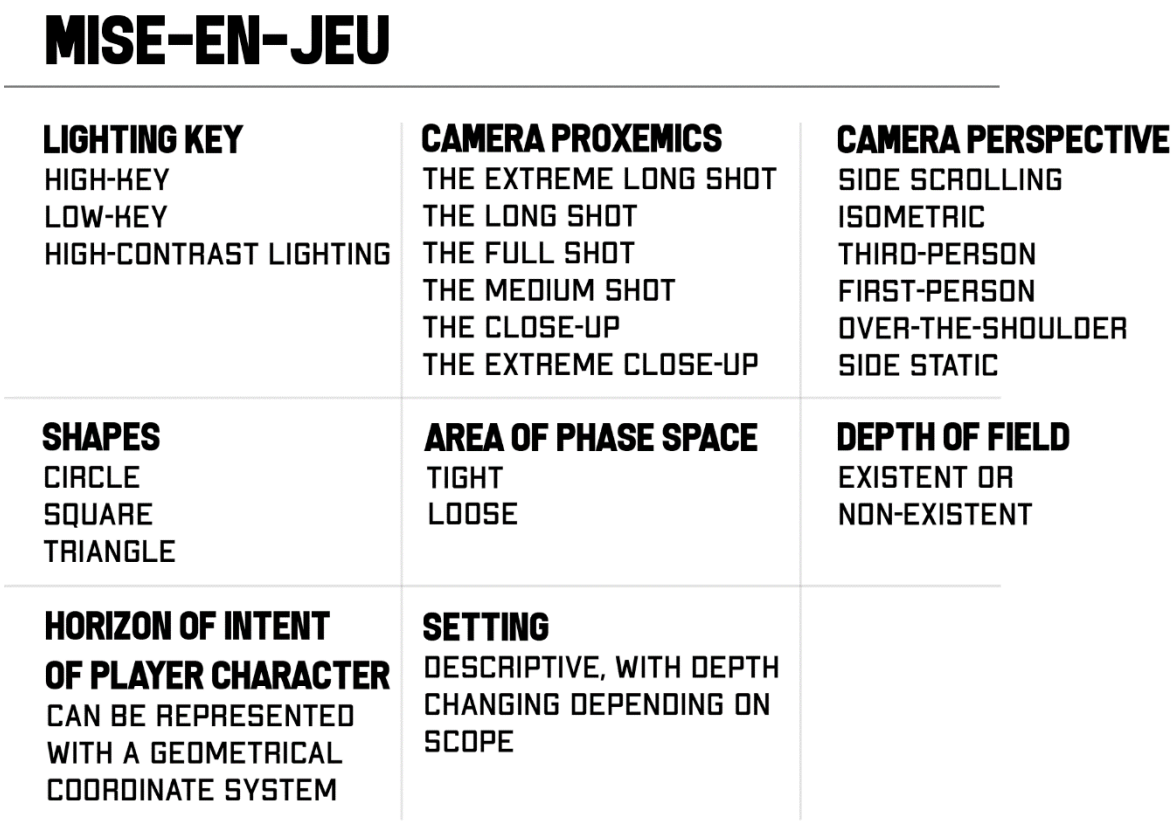


Figure 42: Summary of the variables and the possible results of the mise-en-jeu *framework.*

CHAPTER III — An Exploratory Study on the Application of the Model

III.1. Procedures

The case study is one of the ways of doing research. We find it an appropriate method for the validation of our framework, since it allows us to apply all our theories of the formalization of the *mise-en-jeu* from the *mise-en-scène*, while observing what might be adequate and what we believe needs to be further refined in subsequent studies. We need to adopt a strategy that answers to how the design of the mediated space affects player experience and, having no control over the design of the videogames themselves, testing the framework with case studies allows us to detect design patterns that can help us answer that question.

When we started this project, our research question was "How can gameplay in a videogame be influenced by audiovisual language and grammar?" After the initial research into the topic and after going through a primary literature revision, we realized that we could not answer that question, not with what we had in hand, because what we then called "audiovisual language and grammar in videogames" had not yet been established. There was no framework for *mise-en-jeu* so, instead, we decided to focus our attention in the construction of that frame of reference so that in the future not only can we answer questions such as our initial one, but so that additional researchers and other people concerned with the subject matter can also offer different questions that need a functional *mise-en-jeu* framework as a base for their project launch.

This study could provide information on the issues of videogame understanding, not only being directed at academics, but also at game designers who need to study videogames and understand how they are designed and accomplished, and people who, by any reason, want to understand patterns in *mise-en-jeu* and how those can be studied. Furthermore, this study also reviews current propositions on videogame design and terminology, and makes a note on the elements we believe to be in need of revision, as we did, for example, with Camera Perspective. It may also be beneficial to professional industry

organizations as it may enhance the knowledge of videogame designers on the possibilities offered by a unified framework on the visual aspects of videogames.

As we have indicated before, the need for such a framework had already been identified by Ivan Girina and Victor Potier. Taking into account the age of videogames, it's apprehensible that a concrete specification of the *mise-en-jeu* has not been made yet. Most recent studies focus on specific design elements such as lighting and colour, without an effort being made into combining all these elements into an analytical structure.

Efforts to improve the implementation of standards and to speed up improvements in research quality and coherence is a challenge for researchers, and for this reason, we chose to create a framework that uses variable descriptions and analysis guidelines that have been previously established by other researchers. Organisation and revision was our main concern, as our methods seek to improve the connection between all aspects and theories on visual design in videogames. If at all possible, we would have a timetable that would permit us to develop this third chapter with quantitative as well as qualitative data. However, due to temporal constraints, our contributions will, for now, remain in providing and detailing a framework, and applying it to an extensive number of case studies and attain quantitative results from there, in the form of tables and histograms. Because our sample size is considerably large for the nature of this research, with over 100 scenes from 36 videogames analysed, we ended up with more than 200 tables and histograms, and doing a qualitative analysis of that data is an effort that we will have to relegate to future studies, never disregarding the fact that it is an important endeavour for advancing our comprehension of the *mise-en-jeu*.

III.2. Case Studies

Our strategy for choosing case studies had three steps: 1) choosing parameters that would allow grouping various videogames, 2) finding bibliography that would provide us with solid examples of what videogames are important in videogame history, and 3) picking

specific videogames from that bibliography. Considering that we would do a comparison between the results from all variables and that we wanted to increase the reliability of the results, we deliberated that we needed to work with a specific videogame genre, since that would allow us to have a controlled sample for the purpose of demonstrating our framework.[52] In that sense, we chose to study platformer videogames since it is a genre with a long history and well documented conventions. Studying only one genre helps us while comparing cases, since they all have to share some similar features in order to adhere to the genre conventions, and the fact that platformers already have a substantial history helps us characterizing this model.

At first, our single reference for finding which videogames we would analyse was Rusel DeMaria and Johnny Wilson's *High Score!: The Illustrated History of Electronic Games* (2002), which provides some insight on the evolution of the videogame medium and all the objects, techniques and peripherals associated with it, while documenting the most important videogames in its history. However, due to the lack of enough case studies in the book to complete our list of videogames to analyse and due its age, we added another source from which we could gather different examples of notorious videogames, along with cases that are more recent, since this second book, *A Brief History of Video Games: From Atari to Virtual Reality* (2015) by Richard Stanton, is more up-to-date, while still maintaining a well-researched and exhaustive account of videogames.

Having established these parameters and with a notion of what we had to study, we picked the following videogames for analysis, in an effort to have a diversified and chronologically disparate sample:

1. *Space Panic* (1980)
2. *Donkey Kong* (1981)

[52] Systematic observations of a genre allow us to describe the function of a system within conventions that we already know and that are universal to all case studies. This uniformity allows us to perceive evolution and change in those conventions. If we were to analyse the videogame medium as a whole, we'd have to take into account case studies with very distinct structures and organizational contexts, and because of that, the resulting patterns could be misrepresentative.

3. *Pitfall!* (1982)
4. *BurgerTime* (1982)
5. *Donkey Kong Jr.* (1982)
6. *Manic Miner* (1983)
7. *Chuckie Egg* (1983)
8. *Jet Set Willy* (1984)
9. *Super Mario Bros.* (1985)
10. *Ghosts 'n Goblins* (1985)
11. *Alex Kidd: The Lost Stars* (1986)
12. *The 3-D Battles of WorldRunner* (1987)
13. *Mega Man* (1987)
14. *Shadow of the Beast* (1989)
15. *Commander Keen in Invasion of the Vorticons* (1990)
16. *Sonic The Hedgehog* (1991)
17. *Super Metroid* (1994)
18. *Earthworm Jim* (1994)
19. *Donkey Kong Country* (1994)
20. *Super Mario 64* (1996)
21. *Crash Bandicoot* (1996)
22. *Yoshi's Story* (1997)
23. *Banjo-Kazooie* (1998)
24. *Spyro the Dragon* (1998)
25. *Sonic Adventure* (1998)
26. *Donkey Kong 64* (1999)
27. *Jak and Daxter: The Precursor Legacy* (2001)
28. *Super Mario Sunshine* (2002)
29. *New Super Mario Bros.* (2006)
30. *Portal* (2007)

31. *Super Mario Galaxy* (2007)
32. *Braid* (2008)
33. *LittleBigPlanet* (2008)
34. *Mirror's Edge* (2008)
35. *Fez* (2012)
36. *Super Mario 3D World* (2013)

To analyse the *mise-en-jeu* we could have proceeded with a single case study and analyse a complete play session of it in which we would try to uncover the most of a videogame's cyberspace as possible, instead of focusing on analysing specific scenes, but it's difficult to generalize from a single case in social sciences, and while it is possible, the end result could be too ambiguous for an objective analysis. In order to have a full-fledged research scheme, we opted to work with 36 games, since this also allows us to describe the genre through time. Working with more videogames and with videogames that, while still being platformers, also have more diversity in their dynamics spares the possibility of a scope for researcher bias that is too large.

We believe that our analysis is an important step towards the confirmation of the *mise-en-jeu* framework as a model that can be used as a systematic tool to find patterns and behaviours in different studies of the videogame medium. For example, a replication of our methodology in analysing the platformer genre may allow other researchers to find patterns in genres like shooters or fighting videogames, and the existence of those patterns can then open the possibility for qualitative studies, effectively allowing anyone to gather new knowledge on how different groups of videogames have their visual presentation and dynamics conditioning and influencing player action and the fictional space, considering that while we are analysing the mediated space, it informs and directly influences the other spaces.

Opting on focusing our analysis in the platformer genre with 108 scenes makes us believe that we have generalized patterns representative of the genre, and a future qualitative analysis of those patterns can help solving problems and questions currently existent in it, confirming or contradicting current empirical assumptions of how the genre is depicted in the mediated space and how that affects player experience.

III.3. Methodologies and Data Collection

As we've mentioned before, in this analysis we will only be conducting a quantitative study, which will consist on the quantification of the repetition of patterns in the resulting graphics. In order to reach the representative graphics, however, he had to proceed with what social scientist Bernadette Pauly defines as direct observation as evidence: a moment in which the researcher has to observe "directly what is happening in the social setting, interact with participants, and participate in activities" (2009:301). This means that we will be looking at the mediated space and gathering outcomes that correspond to any of the prearranged possible results of our variables, based on empirical knowledge and our own experience with the videogames.

In order to collect that data, we listed in a table the variables that we had previously defined in the *mise-en-jeu* framework and attributed all the possible results for those variables, with the following distribution:

- *Lighting Key* — high-key, low-key and high-contrast lighting;
- *Camera Proxemics* — extreme long shot, long shot, full shot, medium shot, close-up, and extreme close-up;
- *Camera Perspective* — side scrolling, isometric, third-person, first-person, over-the-shoulder and side static;
- *Shapes* — circle, square and triangle;
- *Area of Phase Space* — tight and loose;

- *Depth of Field* — existent or non-existent;
- *Horizon of Intent* — a grid consisting of 9 distinct zones;
- *Setting* — interior or exterior.

While most of these possible results had already been discussed in Chapter 2, when we described the framework, we only provided an orientation on the possible results for the *Horizon of Intent* and the *Setting*, due to the volatile nature of those variables. With the purpose of solving that, we divided a grid that uses a geometrical coordinate system in 9 zones for the Horizon of Intent since we found that solution to be comprehensible enough – it provides with options such as up-right and down-middle regions – without ever being too specific in that it would require more time then what we have available for this study.

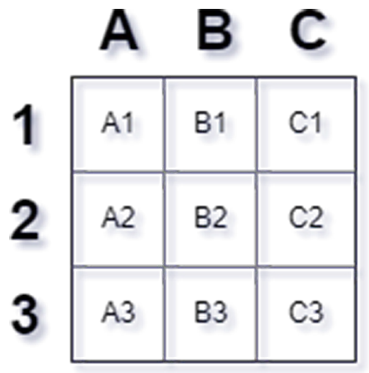


Figure 43: Gridded overlay graphic which we used to map the position of an object in space.

We decided that the results for Setting would be binary, changing between interior and exterior, since otherwise it would become too complex, with many sub-variables, which defeats the purpose of this analysis – to demonstrate the possibilities offered by the framework, and to compile typologies of patterns on the mediated space so that these can be researched in future studies.

When we outlined the dissertation, we were aware of the possible appearance of certain variables that we wouldn't be able to properly analyse, since our system had not

been tested yet. To solve this, before we laid out the *mise-en-jeu* framework, we started testing the application of film's *mise-en-scène* to videogames, in order to find out what was incompatible and what challenges we had ahead. Gradually this evolved into the current method of analysis. We also realized that the system could present many confrontations with what we envisioned as the *mise-en-jeu*, and before the eventual start of the definitive writing of the framework, the current method of analysis was being tested, and we were already filling out analysis tables and creating visualization graphics, so that the framework was constantly adjusted until we were satisfied with all the methods and results.

Having established all the variables that were to be analysed and all the possible results, and the videogames which we would analyse as well, we then proceeded to define how what parts of a videogame we would actually study, and why. The use of quantitative techniques for the production of results in our dissertation is guided by the fact that we are studying the evolution of the aesthetics of a particular videogame genre and, as such, we focused on allowing ourselves to analyse, as we verified above, an expensive pool of case studies that cover the most recognized platformer videogames since the invention of the medium.

This implicates the planning of a good balance between the number of videogames studied, and the number of scenes considered per game. Our goal is to pick the most representative scenes from each game and integrate them in appropriate comparisons along the discussion in our essay. To that end, we argue for depth of information instead of breadth, considering that in some videogames analysing every single scene could result in an unnecessary saturation of alike information.

Considering that this sort of analysis in the medium is still in its infancy, we decided to adopt the methodology used by Evan Skolnick (2014) for videogames, which is based on a model used in other narrative fiction such as film: an analysis based on the model of the three-act structure. This model splits the narrative into three moments: *Setup*, *Confrontation* and *Resolution* (Skolnick, 2014:19).

Our analysis will consist on the dissection and identification of these elements in each videogame we analyse, after which we will select the pivotal scene from each of those sections and analyse it. In this manner, we can examine a larger number of videogames within the same time-frame and avoid the repetition that would come from evaluating every scene from a smaller number of videogames.

With all these considerations, we also divided the table correspondent to the analysis of a scene in three moments, representing its beginning, middle and end. We must stress, however, that we didn't simply analyse three distinct moments of a scene. In order to increase the granularity of the analysis, whenever needed we created expanded tables in which we describe the scene in more detail and distribute that analysis into more moments. Below, we can find an example of a main table of analysis and an example of an expanded table:

Table 1: Example of a table used in our mise-en-jeu *analysis.*

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3, C3	A2, B2, C2, A3, B3, C3	A1, B1, C1
Setting	N/A	N/A	N/A

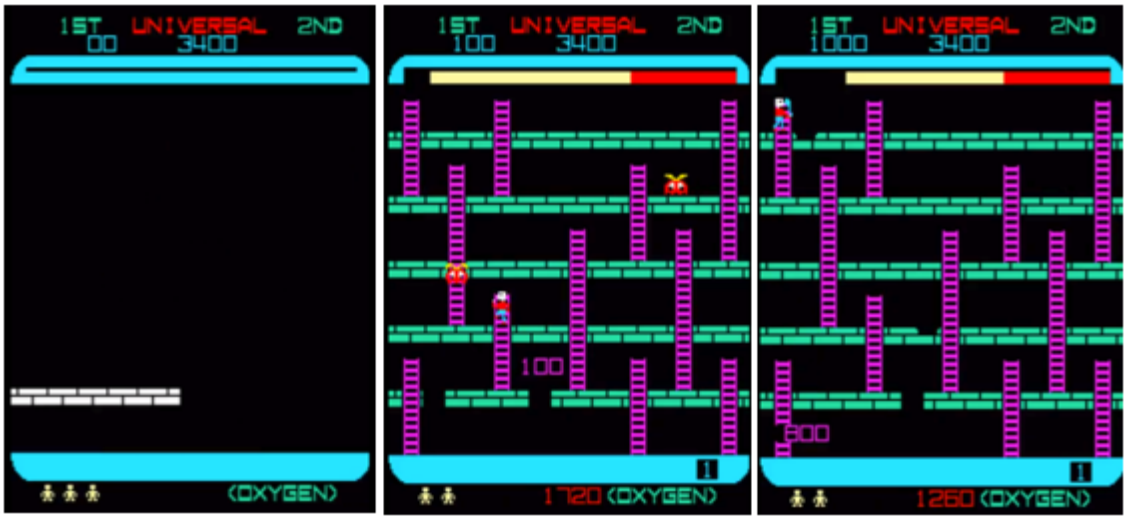
Table 2: Example of an expanded table used in our mise-en-jeu *analysis.*

Value	Beginning	B	c	Middle	e	f	End
Area of Phase Space	Large	Large	Small	Small	Small	Small	Small
Horizon of In-tent	A3, B3, C3	A3, B3, C3	A2, B2, C2	A2, B2, C2	A2, B2, C2	A1, B1, C1	A1, B1, C1

Even though we played all the videogames ourselves in order to make this study, it would be hard to transmit to all readers our experience through text only. In an effort to better describe what we analysed at any given moment, we opted for including the name of the game, the number of the scene, an external video of what we analysed with the associated time-frame, and three representative screenshots that demonstrate the scene at the beginning, middle and end moments. So, with the whole process described, below we include an example of the analysis of a single scene:

Space Panic (Scene 1)
https://www.youtube.com/watch?v=00YQfjTEjqU

0.00-0.58



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent of PC Position	A3, B3, C3	A2, B2, C2, A3, B3, C3	A1, B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	B	C	Middle	E	F	End
Area of Phase Space	Large	Large	Small	Small	Small	Small	Small
Horizon of Intent	A3, B3, C3	A3, B3, C3	A2, B2, C2	A2, B2, C2	A2, B2, C2	A1, B1, C1	A1, B1, C1

Figure 44, Table 3a and Table 3b: Example of the analysis of a single scene in our dissertation.

As we can see in Figure 44, and Tables 3a and 3b, first we made a complete analysis of the scene, completing the table with the results for all the variables analysed. Afterwards, we identified results that deviated from a pattern and highlighted them for a more in-depth description of the analysis.[53] That analysis comes in the second, expanded table, in which we added more moments to the analysis until we identified the moment in which the transition from one value to another occurs, leaving no room for ambiguity. Not only did this help us identify moments of transition, but also to understand the alternations in variables that have more disparate results, as one can notice in our analysis of the Horizon of Intent. In this case, for example, there was no need for a more in-depth description of any other variable aside from Horizon of Intent and Area of Phase Space since, as we can

[53] For example, here we highlighted *Large*, since the pattern was *Small*.

witness in the table, all the other variables had a consistent result throughout the whole scene.

After thoroughly analysing the three scenes of all the selected videogames and having all the tables completed, we had our basis for the study of the application of the model. However, data visualization in table format can be very difficult to interpret, especially considering the large number of scenes we analysed. So, in order to solve that issue and to make the perception and examination of our data easier, we decided to convert all the expanded tables into histograms. We didn't convert the main tables as a whole, since the graphics' most useful purpose is to demonstrate changes and patterns in the results of the variables, and variables that do not have these sorts of changes would have to be represented as a flat line, rendering them purposeless and creating a visual saturation that would make analysis more difficult. We didn't create histograms for Horizon of Intent because we our analysis of that variable may be too biased and needs triangulation to improve accuracy.

Having applied a postpositivist empirical-analytical methodology[54] to this research, we acknowledge that our hypotheses, experience as players, previous insight of the medium and our principles as researchers influenced what we observed in the other variables. We also recognize the possible effects of biases on our research and don't believe that the other variables need triangulation.

Our histograms have taken two different graphical formats due to the fact that some variables have results that are mutually exclusive and are never present at the same time at any given moment in the scene (see Figure 45), while others present results that sometimes develop into mixed outcomes. For example, when analysing the Shapes that

[54] "In its broadest sense, positivism is a rejection of metaphysics. It is a position that holds that the goal of knowledge is simply to describe the phenomena that we experience. The purpose of science is simply to stick to what we can observe and measure. Knowledge of anything beyond that, a positivist would hold, is impossible. (…) post-positivism is a wholesale rejection of the central tenets of positivism. A post-positivist might begin by recognizing that the way scientists think and work and the way we think in our everyday life are not distinctly different. Scientific reasoning and common-sense reasoning are essentially the same process. There is no difference in kind between the two, only a difference in degree. (…) The post-positivist also believes that all observations are theory-laden and that scientists (and everyone else, for that matter) are inherently biased by their cultural experiences, world views, and so on" (Trochim, 2006:para.3-6).

the various elements on a scene take form, it's very common to encounter scenes that have more than one shape present at the same time, and in those cases we opted for a different graphic, which can be observed in Figure 46.

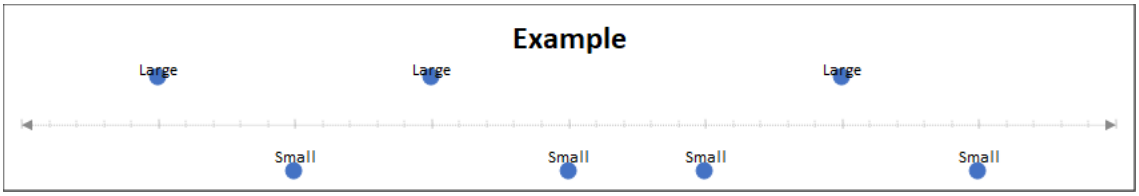


Figure 45: Example of the type of graphic that we're using when the results of a variable are mutually exclusive.

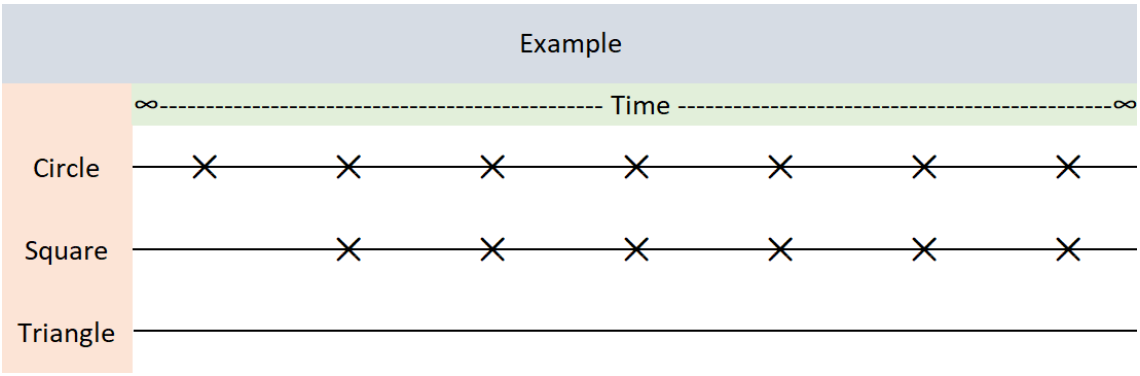


Figure 46: Example of the type of graphic that we're using when the results of the variable have mixed outcomes.

As it's noticeable, there is no mention of distance or a specific time frame, even though in both cases an indicative but unspecified axis charts time, because we're not quantifying it. Videogames, unlike films, don't have set running times, and while these moments might occur in a sequence, the distance between them can't be quantified. The time axis also doesn't begin and end when that happens to the graphic, but rather extends to the infinite both at beginning and the end, since time is infinite in videogames, and any given scene is analysed in the context of the whole experience, being only a fragment of a much larger play session. In future studies, we believe that it is important to try and understand temporal expression as a phenomenon accessible to a more objectifiable observation.

Because we haven't studied temporal dynamics, we have decided not to connect either the dots or the crosses in the graphics, as that would imply that we knew exactly how the results varied with time and between moments, which in turn would allow us to create lines connecting moments that would be analogous to the temporal dynamics. With that study still in need, we're only signalling different moments at which we noted the results in our play sessions, without expressing any transition between them.

Having described our methodology for data collection, we recognize that there are some limitations to our approach. The qualitative nature of the results does not directly answer one of our questions, which consisted on perceiving the effect of the *mise-en-jeu* in player experience. While a qualitative analysis of the patterns we identified might answer that question, it isn't encompassed in the plan we outlined with this methodology. Furthermore, the results can't be used to describe the *mise-en-jeu* in the videogame medium as a whole, since we opted to focus on platformers, however, that option allowed us to prove that this methodology works and that therefore applying it to other genres is a promising method of analysis. In a larger study it would be possible to encompass all videogame genres and, by means of detection and comparison of patterns, propose a generalized theory of the effects of the *mise-en-scène* in the whole medium.

III.4. Analysis and Results

III.4.1. Directions for the Interpretation of Annexed Material

Annexed to this dissertation, we include all the tables and graphics we created for the collection and analysis of data. Here, we explain how those elements can be interpreted and inform on some abbreviations that have to be made.

In the analysis tables, the title contains information on the analysed videogame, along with the scene number, and a hyperlink underneath it directs the reader to an online

video that contains a playthrough of that scene.[55] In order to understand where in the video the scene ends and starts, we include a timecode below the hyperlink, which corresponds to beginning and the end of the scene. Three representative screenshots are also included, which represent the scene at the beginning, middle and end. In the table, we divide the scene into beginning, middle and end as well, although we must inform that those divisions aren't directly related to a strict division of the length of the scene as shown in the video into three equally measured parts, but rather represent our perception as players and researchers of the three parts of the scene, since in different play sessions different players will spend a different amount of time with each part of the scene, depending on their intentions and relations with the videogame's dynamics.

We used abbreviations when filling the tables, in order to achieve a cleaner and more efficient visual effect. The abbreviations and their correspondent meaning are defined as:

- *HK* – High Key;
- *LK* – Low Key;
- *HC* – High Contrast;
- *S* – Square;
- *C* – Circle;
- *T* – Triangle;
- *N/A* – Not Applicable/Non-Observable;
- *TP* – Third Person;
- *FP* – First Person;
- *Side Scroll.* – Side Scrolling;
- *Int.* – Interior;
- *Ext.* – Exterior.

[55] The videos are also included in the DVD version of this dissertation.

The coordinates found as result of the Horizon of Intent variable correspond to the positions we mapped, as shown in the figure below.

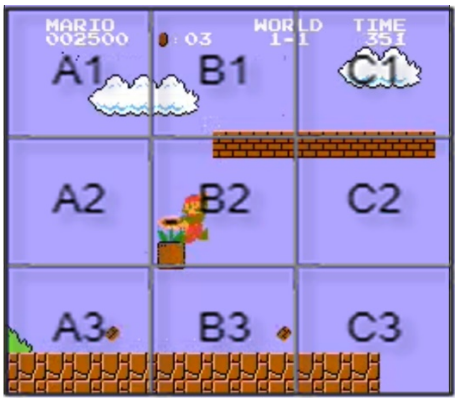


Figure 47: Example of the mapping of the Horizon of Intent variable in a scene from Super Mario Bros. *(1985).*

III.4.2. Results

Our main concern with this dissertation has been providing a functional framework for the analysis of the *mise-en-jeu*, and the following results serve both to prove that our framework is valid and can be used to examine visual dynamics in videogames, and to identify a number of repeating patterns in platformers. Below, a systematic description of our results can be found, in which we highlight relevant patterns and provide a brief description and a quantification of the repetition.

Do note that we are including the various variation of the results as being the same pattern, as seen in the auxiliary graphics.

III.4.2.1. Pattern 1

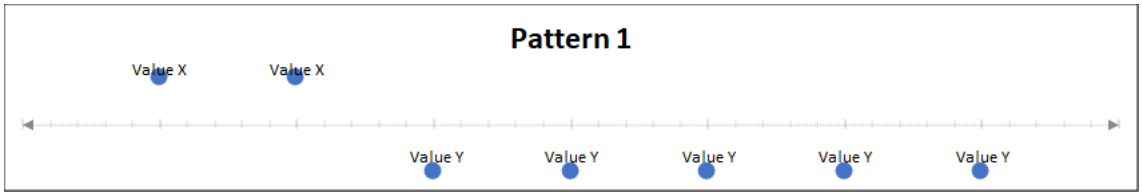


Figure 48: Representation of Pattern 1.

Pattern 1 was found in 36 occurrences in total:

- 25 times on the Area of Phase Space;
- 6 times on the Setting;
- 3 times on the Camera Perspective;
- Once on the Lighting Key;
- Once on the Depth of Field.

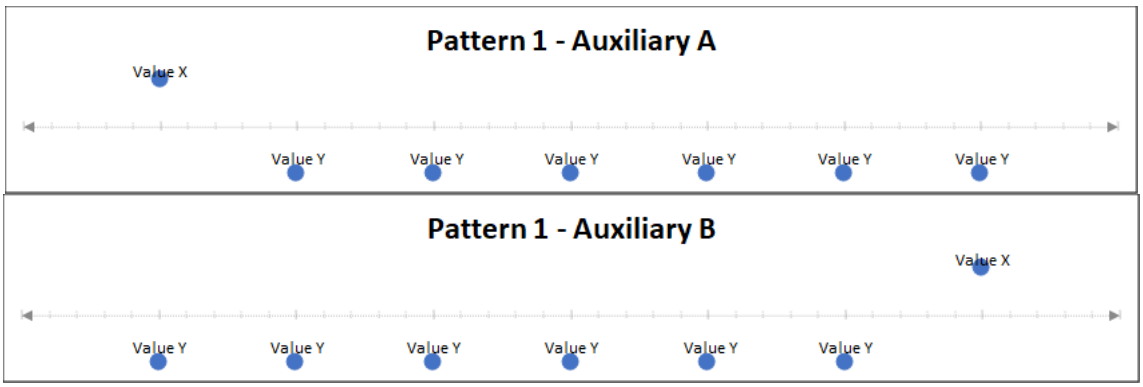


Figure 49a and Figure 49b: Demonstration on the variations of the same pattern.

Essentially, what happens in Pattern 1, is that the variable presents one value consecutively, and then changes to another value that stays static until the end. It might have to do with the mediation of the level by the designers by, for example, increasing or decreasing the space the player has available to move, and therefore increasing or decreasing the difficulty of the level. For example, on the first scene of *Space Panic* (1980) that we analysed, this happens because at the beginning of the level the player doesn't have to face enemies, but from a certain point until the end of the level, enemies are always surrounding the player, and in the second scene we analysed of that same videogame, the same thing happens, although the time that the player is left without being challenged by enemies is shorter.

III.4.2.2. Pattern 2

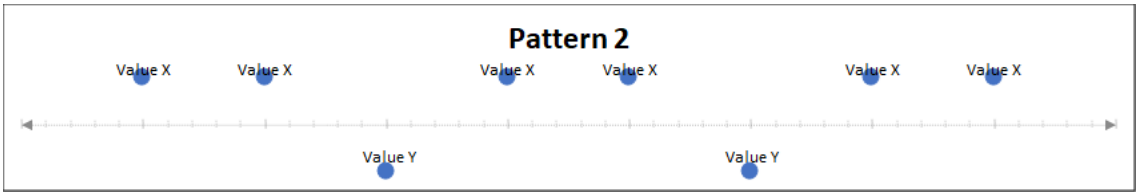


Figure 50: Representation of Pattern 2.

Pattern 2 was found in 13 occurrences in total:

- 5 times on the Setting;
- 3 times on the Camera Perspective;
- 3 times on the Area of Phase Space;
- Once on the Lighting Key;
- Once on the Depth of Field.

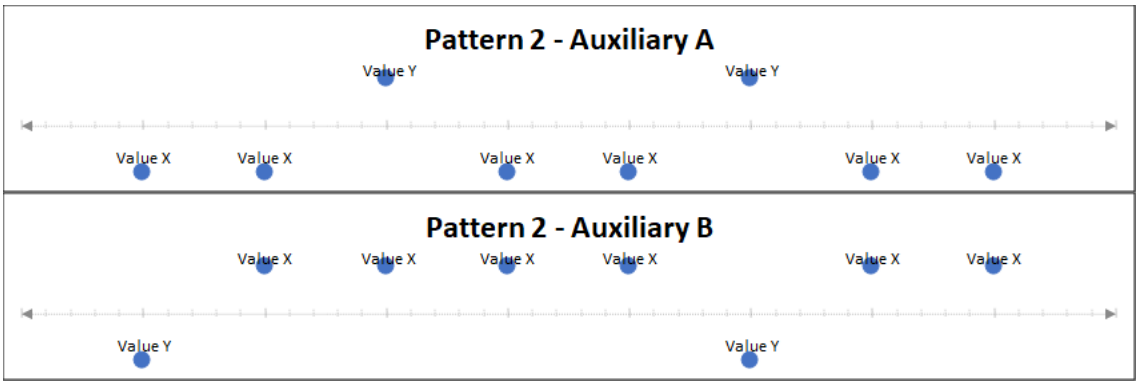


Figure 51a and Figure 51b: Demonstration on the variations of the same pattern.

What happens in Pattern 2, is that the variable presents one value most of the times, some peaks to another value happen at odd times, and then immediately it returns to the most constant value. These sudden peaks might be present so that the designers can, for example, introduce the player to new locations. On the second scene of *Mega Man* (1987) that we analysed, for example, the players play a level that is mostly presented in the Side Static perspective with a very small Area of Phase Space, due to the constant threat

of enemies and platforming hazards, however, there are two middle points in the level in which the Camera Perspective changes to Side Scrolling, and at those exact points in the level the Area of Phase Space becomes substantially larger, coinciding and giving players some room to rest and rethink their strategy.

III.4.2.3. Pattern 3

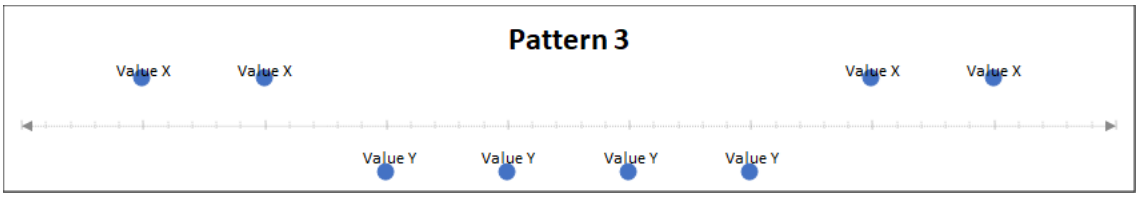


Figure 52: Representation of Pattern 3.

Pattern 3 was found in 12 occurrences in total:

- 9 times on the Area of Phase Space;
- 2 times on the Lighting Key;
- Once on the Camera Perspective.

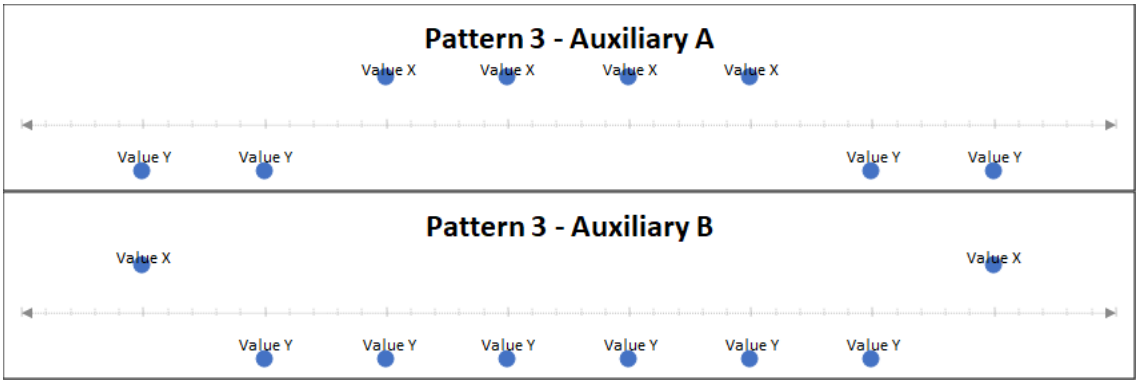


Figure 53a and Figure 53b: Demonstration on the variations of the same pattern.

Essentially, what happens in Pattern 3, is that there is a starting value, which then changes to another value that repeats itself for some time, and then we end with the initial value. This design might be related to, for example, the trend in platformers of having wider

and easier locations at the start and the end of a level, so that the player can think ahead at first and rest in the end. For example, on two scenes of *Sonic the Hedgehog* (1991) and in two of *Super Mario 64* (1996) the Area of Phase Space is always large at the beginning and end of the levels, and small at middle of the levels, and we notice an increased difficulty in those middle areas, so this seems to be a design that lets the player observe the level and plan at the beginning, go through it knowing it'll be more difficult, and rest at the end.

III.4.2.4. Pattern 4

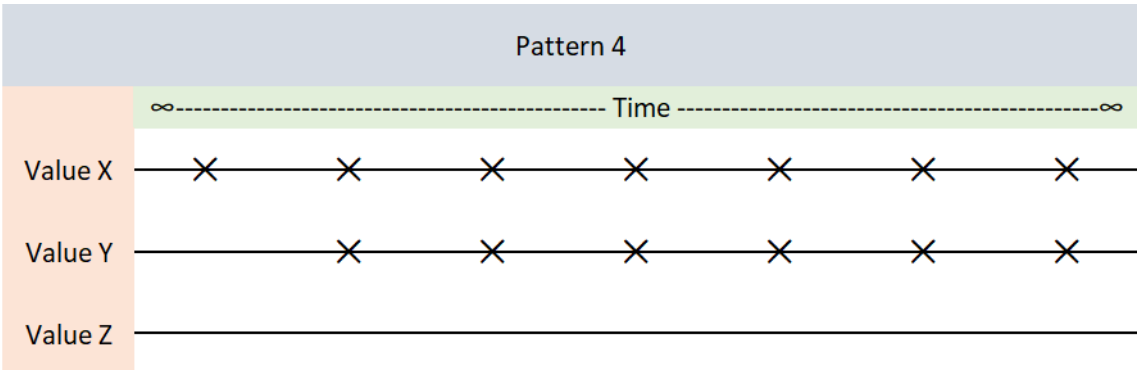


Figure 54: Representation of Pattern 4.

Pattern 4 was found in 11 occurrences in total:

- 9 times on the Shapes;
- Once on the Lighting Key;
- Once on the Camera Proxemics.

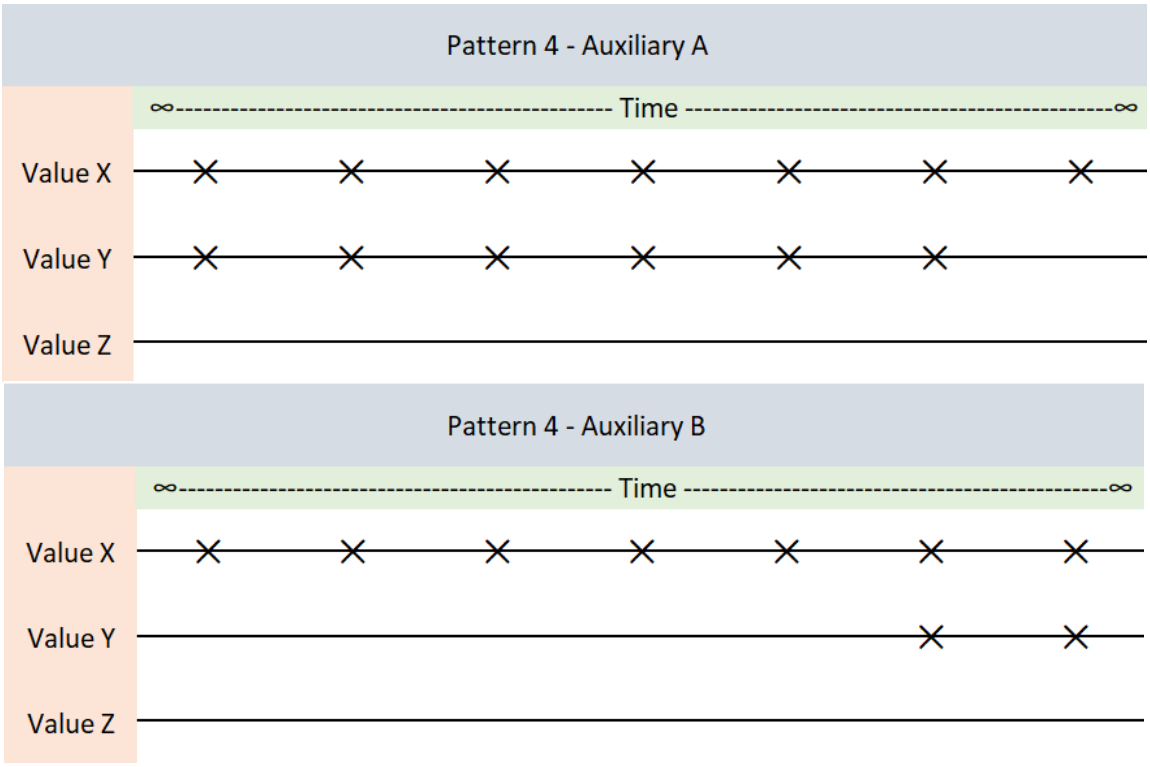


Figure 55a and Figure 55b: Demonstration on the variations of the same pattern.

What happens in Pattern 4, is that there are constant values from beginning to end, and then there is one value that appears at either the beginning and stops being present in the middle or starts being present only in the middle and status present until the end. This might be attributed to, for example, the changing of locations within the same level, as they might present different characteristics. On the third scene of *Donkey Kong 64* (1999) that we analysed, for example, we only get full shots alongside the long shots at the end of the level since that's when we're close to beating the final boss of the videogame and that crucial moment is emphasized by the change to a Camera Proxemic that is much more personal. Pattern 4 can also be verified through its repetition on all the scenes of *Super Mario Sunshine* (2002) that we analysed, but in this case in the Shapes, which always include square shaped platforms at the start of the level, which is something the player is accustomed to, and therefore it makes it easier for the player to learn new mechanics, but it's a shape that is never present from midway through the end of the scenes when the player is

more comfortable with the rules and can take more risks with the platforming elements of the game.

III.4.2.5. Pattern 5

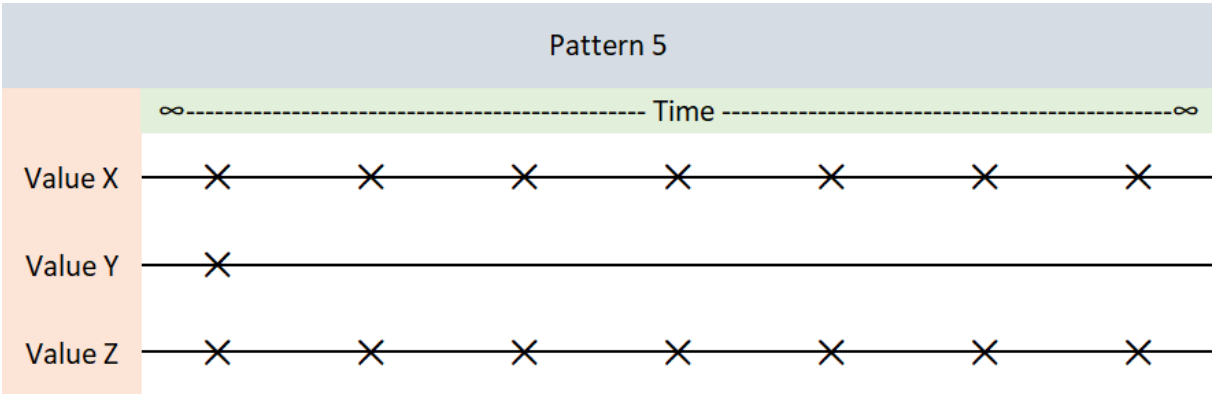


Figure 56: Representation of Pattern 5.

Pattern 5 was found in 9 occurrences in total:

- 5 times on the Shapes;
- 2 times on the Camera Perspective;
- 2 times on the Camera Proxemics.

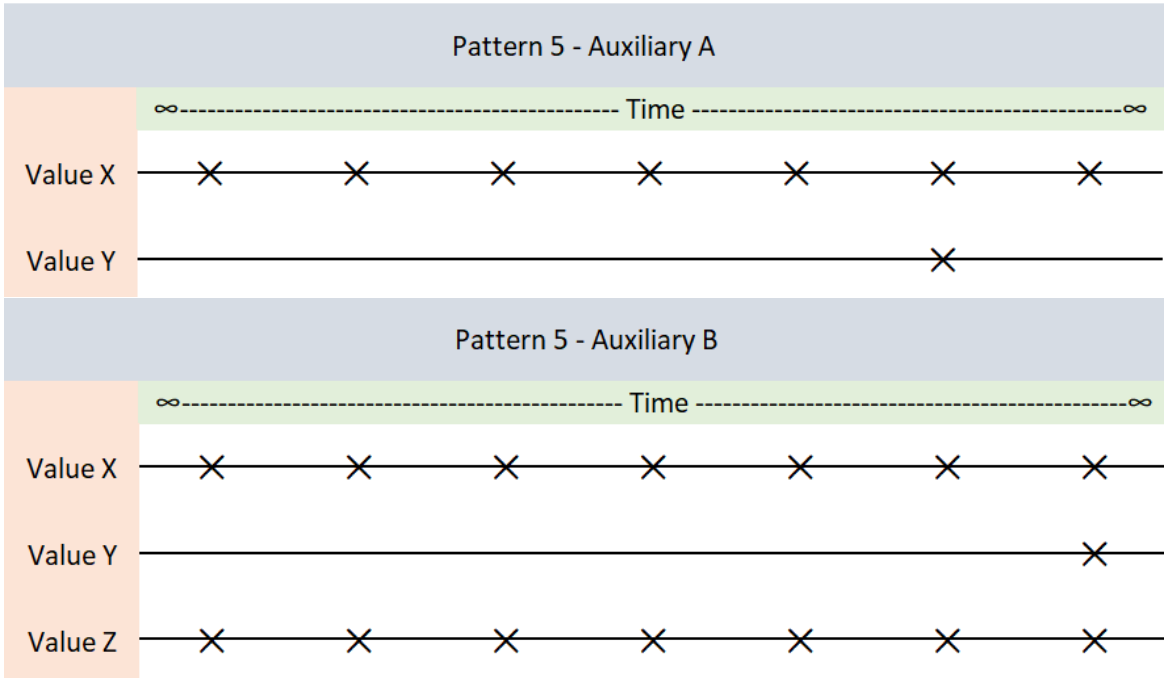


Figure 57a and Figure 57b: Demonstration on the variations of the same pattern.

What happens in Pattern 5, is that there are one or more constant values from beginning to end, and then there is one value that appears only once in the whole scene, constituting a moment that presents itself as an outlier of what we might consider the scene's general *mise-en-jeu*. We believe that this might occur because of, for example, the introduction of a visual element or mechanic that is exclusive to a specific moment of a level. For example, on the first scene of *Banjo-Kazooie* (1998) that we analysed, there square tiles on the floor at the start of the level, but those never appear again in that scene, appearing to be exclusive to the player character's home. The same thing happens on the first scene of *Spyro the Dragon* (1998) that we analysed, in which there is a small transition area with square tiles that the player has to go through to access another area, but never sees again in that scene.

III.4.2.6. Pattern 6

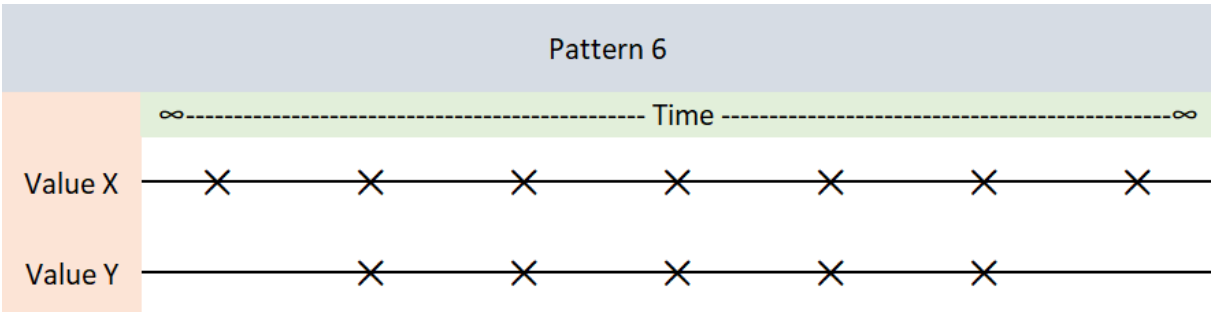


Figure 58: Representation of Pattern 6.

Pattern 6 was found in 2 occurrences in total:

- Once on the Shapes;
- Once on the Lighting Key.

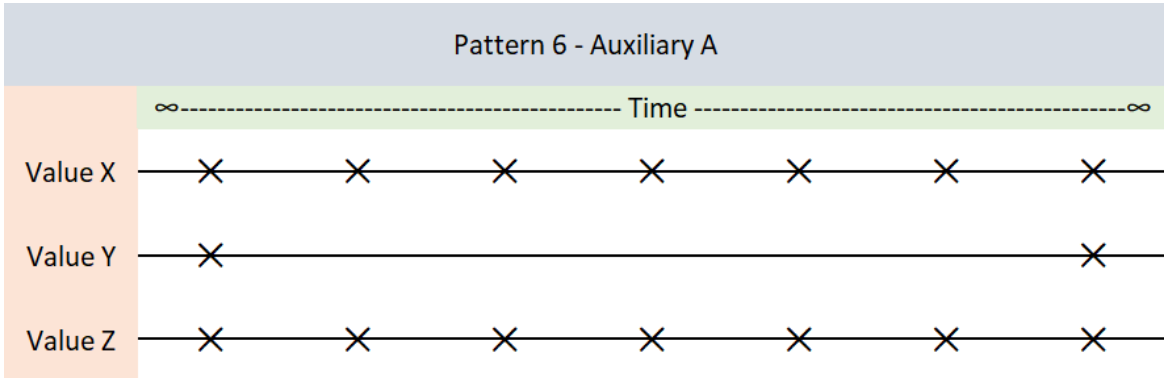


Figure 59: Demonstration on the variation of the same pattern.

Essentially, what happens in Pattern 6, is very similar to what we see on Pattern 3, but instead of two values, we have three values as a result of the variable. There is one value that appears either in the beginning and end of the scene or only in the middle when in reverse, creating a pan effect. Both occurrences are on the second scene of *Super Mario 3D World* (2013) that we analysed, and are coincidental. What happens there is that whenever there are square shaped elements in the scene, high key lighting is never present, and vice versa. This is because this is mostly a boss level, in which the players are introduced to

the level in a location where can be stationary while planning ahead, move to the boss arena, and then move on to an area similar to the one in the beginning of the level, where they can rest and go for the flag that allows them to finish the level.

III.4.2.7. Other Results

While we were only able to detect six patterns, we found other results that we believe to be of peculiar interest for a qualitative analysis. Many of them are by-products of the mixture of two or more of the previously described patterns. While we won't be making notes on all of results, a complete list of the graphics is annexed to this dissertation.

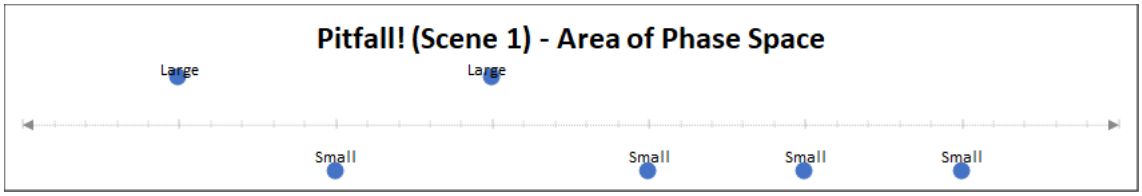


Figure 60: Area of Phase Space *in a scene from* Pitfall! *(1982).*

In the figure above, we can observe that in this scene the Area of Phase Space is constantly shifting until the middle of the scene and then becomes static until the end. We couldn't constitute a pattern out of this result since it never repeats, although we noticed similar results that one might argue to be the same, such as the one in the figure below.

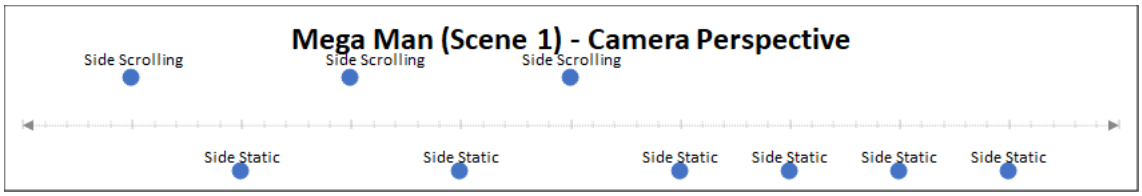


Figure 61: Camera Perspective *in a scene from* Mega Man *(1987).*

Note that while the two results are similar, the one in Figure 61 is more expressive and constitutes a larger shift, while the one from Figure 60 only sees the value *Large*

present twice, and in a different variable, and for this reason we opted for not identifying this as a pattern.

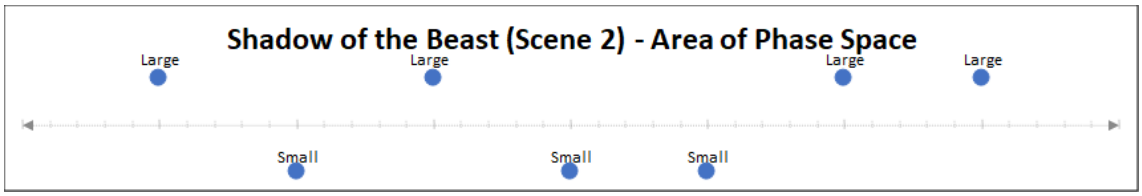


Figure 62: Area of Phase Space *in a scene from* Shadow of the Beast *(1989).*

In this scene from *Shadow of the Beast* (1989) there is a mixture between two patterns that we've described before. The scene starts with values that resemble Pattern 2 but from mid-way until the end it assumes the form that we observed in Pattern 1.

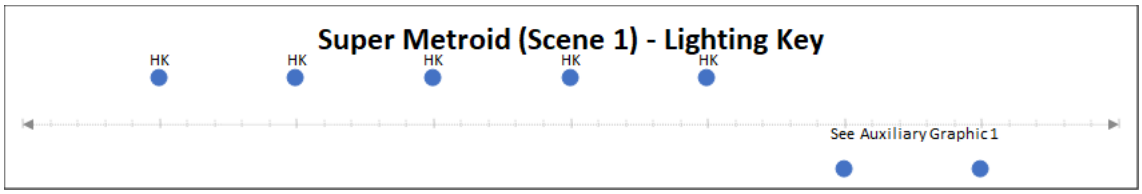


Figure 63: Lighting Key *in a scene from* Super Metroid *(1994).*

In some cases, like the one we see in Figure 63, he had to provide a more detailed analysis of what happens in specific moments. In this scene for example, we verified that the last two moments couldn't be described only with two markers, and in order to provide a more detailed analysis of those specific moments of the scene, we redirect the reader to an auxiliary graphic that inspects those moments of the scene in more detail. A total of 10 auxiliary graphics had to be created, since most scenes can't use the same graphic, although some did. We created auxiliary visuals for both styles of graphics we used for the analysis, as exemplified in the figures below.

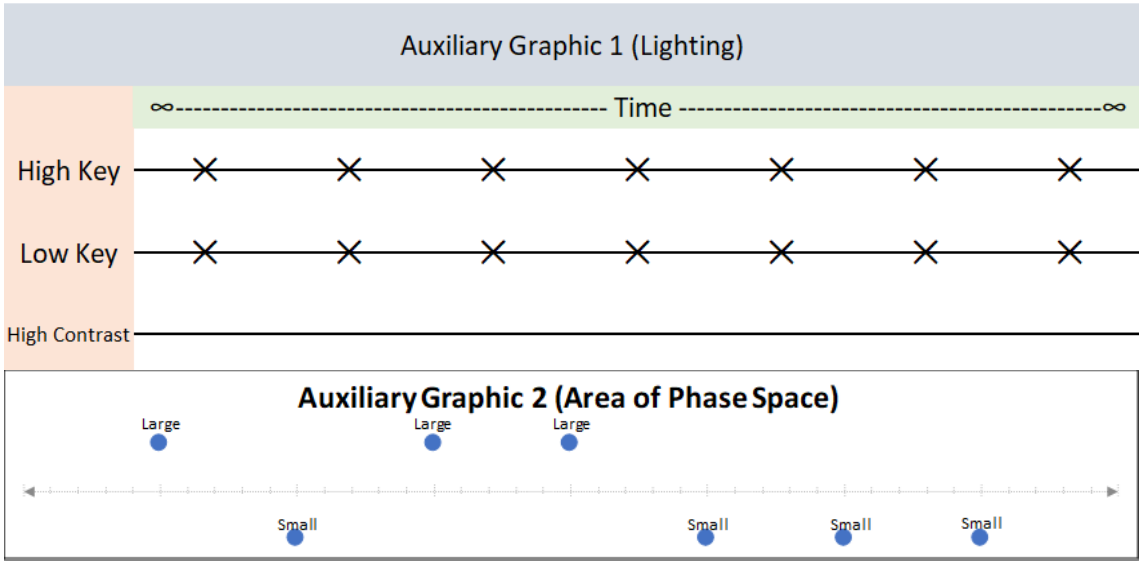


Figure 64a and Figure 64b: Examples of the two types of auxiliary graphics in use.

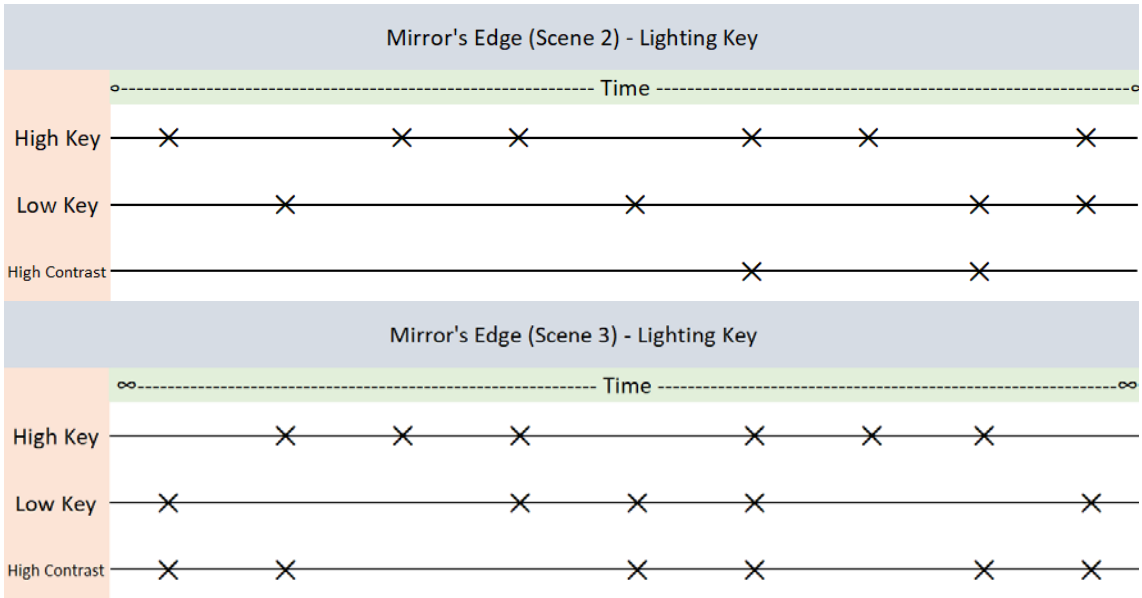


Figure 65a and Figure 65b: The Lighting Key *in two scenes from* Mirror's Edge *(2008).*

These two variables in the figures above are the ones from the whole analysis the present more variation on the results and, consequently, are the ones that present a larger challenge in the analysis. It can be attributed to the videogame's focus on providing various scenes of high contrast, both by present locations with *high-key* and *low-key* lighting zones at the same time and by constantly providing locales with *high-contrast* lighting.

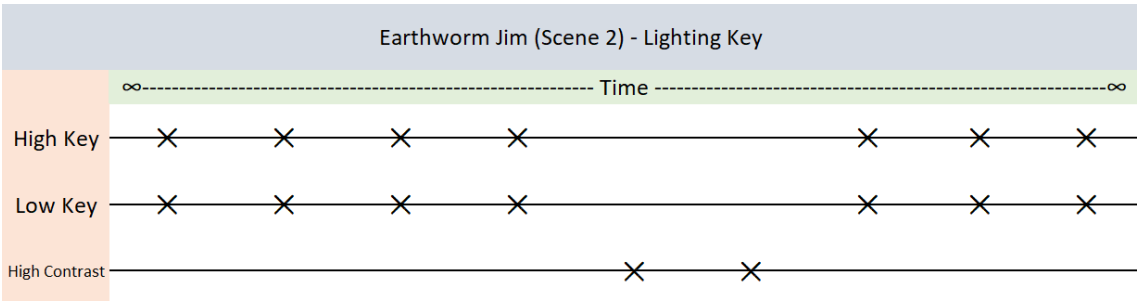


Figure 66: The Lighting Key *in a scene from* Earthworm Jim *(1994).*

Lastly, we believe that this last graphic also needs a certain attention, since it represents the only scene in which we had a halt of the pattern's results midway, for another different result to be momentarily shown.

In total, we represented 116 scenes graphically, since the ones with static values don't need a representation outside the analysis tables. Out of these 116, we broke them down into to the ones that follow a pattern and those that don't:

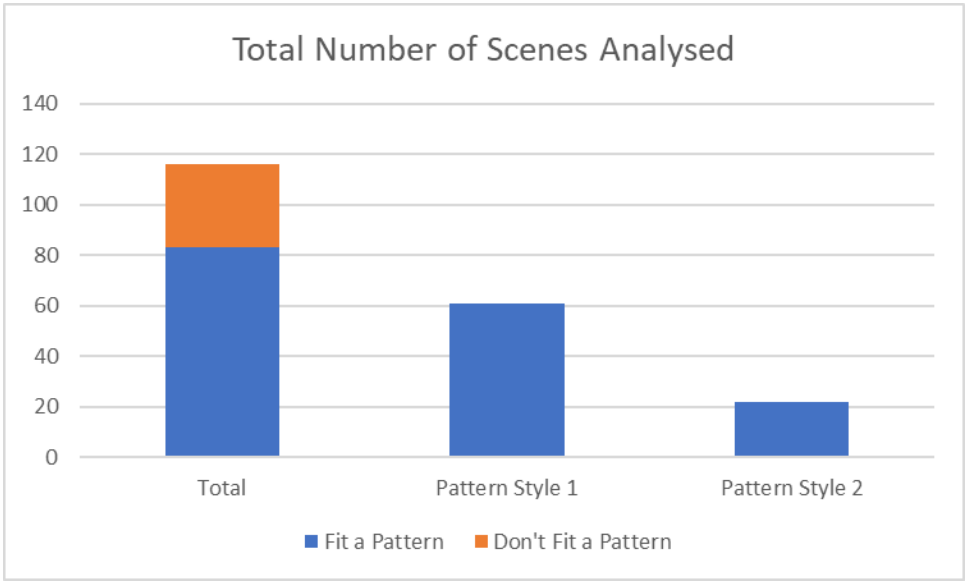


Figure 67: Breakdown of the pattern distribution in the variables that were graphically represented. Pattern Style 1 refers to the collection of graphics in which the variables only have two mutually exclusive results. Pattern Style 2 refers to the collection of graphics that have do not have mutually exclusive results.

This breakdown is important in the sense that it allows us to verify that the number of variables that fit into a pattern (83) is more than double of the variables that don't fit into a pattern (33). This information validates our theory that a *mise-en-jeu* analysis made in this manner can be very helpful, since we were able to recognize visual design patterns that are applied to the majority of the videogames in the platformer genre, and for trying to understand how some scenes refuse to adhere to established patterns. The existence of patterns alone helps us reiterate that the *mise-en-jeu* framework is valid, helpful and should be further refined so that it can be implemented by all who need such a tool. We're also informed by this graphic that most variables have binary representations. This is something that can be studied in the future with the intention of finding if this binary variation has influence on player experience, and if so, how. We must not forget that, as we observed in the analysis tables, many variables don't have any variation at all, which leads us to wonder that videogame designers opt for a *mise-en-jeu* that favours binary variations of the variables or no variation at all depending on technical limitations or their artistic intention.

IV - Outcomes

IV.1. Suggestions to Improve the Framework and Future Studies

Over the course of the construction of this dissertation we identified and acknowledged some limitations that restricted our findings. To begin with, we would like to discuss our sample size. The number of case studies on our analysis was directed by the specifications of our medium of research. Considering that videogames are a rather recent medium when compared to other artistic media, having 36 case studies isn't in itself small, and we believe that our data is sufficient to our hypothesis to be put to test. Nonetheless, it could have been significantly bigger if we had a timetable compatible with a larger scope. Of course, this means that expanding the analysis of platformer videogames could be made, but we believe it would be more beneficial to the study other genres, something we believe is necessary to improve this study. This would not only allow us to detect and understand patterns in other genres, but also to let us compare patterns between different genres and establish the visual language and dynamics throughout the whole medium.

To reach an understanding as to how *mise-en-jeu* affects player experience, another limitation of this dissertation would also have to be outstripped: the fact that we didn't conduct any qualitative research. We believe that, in order to fully understand the *mise-en-jeu*, there is the need for a mixed methodology that considers both quantitate and qualitative research elements that need to be interconnected. Only then we can one theorize about the impact of the *mise-en-jeu* on player experience, and back up those claims with statistical and concrete processes.

The lack of prior research studies on an attempt to effectively establish what is the *mise-en-jeu*, and what variables can be observed through it, left us with some recommendations of variables that weren't integrated in our framework but that can possibly be part of a model that builds upon this one. As discussed in Chapter 2 of this dissertation, the most critical element that we had to leave out of our dissertation was the research of colour,

since it was too complex to fit in our timetable and was beyond our scope. When we made a brief description of the impact of colour on videogames, we also made some recommendations on established literature that goes in depth on the influence of colour on videogame design and player experience, and we suggested that those theses can be used as a basis for the debate.

Another subject we left out was sound, not only because it was also behind our scope, but also because it is not unequivocal that sound should be part of the *mise-en-jeu*, or a separate field of study. What lead us to question its place within the *mise-en-jeu* is the fact that in other media, such as film and theatre, there is no agreement to whether sound is part of the *mise-en-scène* or not due to its unclear status as part of the diegesis (Hackley, 2013:8). Nonetheless, it's important to verify its place on the diegesis of the videogame medium and, consequently, determine whether it can be part of the *mise-en-jeu* and, if so, in what terms is it present and how can it be analysed.

We find it imperative that future studies also make an effort on triangulating data in order to reach a proper analysis of the Horizon of Intent variable, since we accept that our analysis doesn't have sufficient data sources to be valid as a definitive analysis of it in our case studies. Other than our own input, which was based on an empirical but subjective observation, we suggest that future studies gather data from multiple players and an option from videogame designers on what the Horizon of Intent might be in any given scene.

All of this effort in establishing the codes and guidelines of the *mise-en-jeu* can then make possible that other studies answer our initial question – How can gameplay in a videogame be influenced by audiovisual language and grammar? – in which we would now simply replace "audiovisual language and grammar" by the preferred terminology: *mise-en-jeu*.

As stated, in forthcoming research, we consider important that one tries to understand temporal expression as a phenomenon accessible to a more objectifiable observation, so that temporal dynamics can also be graphically represented and that the moments of a scene can be properly connected by expressive lines. In turn, this advancement on

graphical representations of time would lead to a better foundation for qualitative research on the topic.

In our findings, we noticed that some patterns are present not only in one variable but are the same across different variables in different scenes. Also, of utmost importance for future work is a study that relates these patterns between the variables in which they were identified and examines why two different variables on the same scene, for example, may behave in the same manner, and tries to understand those dynamics and how they influence one another, and how that interconnection affects player experience.

IV.2. Conclusions

This dissertation developed and tested the idea that a framework could be developed for the analysis and description of the visual design aspects of a videogame. This dissertation was motivated by two research questions: 1) What is the visual grammar of the videogame medium? 2) How can that grammar affect player experience? To examine these questions, we researched how they were addressed in other media and followed a similar methodology, adapting it to the specificities of videogames. This dissertation especially tested hypotheses regarding the adaptation of film's *mise-en-scène* to the videogame medium's mediated space, with three goals: 1) to adapt the variables from *mise-en-scène* that were fit to the videogame medium; 2) to add new variables that are native to videogames; 3) to test all variables from the previous points with case studies. Previous research indicated the need for what can be identified as mis-en-jeu, and this study advances our understanding of it as well as providing a fundamental framework for its analysis. To understand how the *mise-en-jeu* framework could be properly developed and used, first we studied and applied the previously established concepts of: Mechanics, Dynamics and Aesthetics by Robin Hunicke, Marc LeBlanc and Robert Zubek; videogame spaces by Michael Nitsche; and eye space by Yu-Ching Chang and Chi-Min Hsieh. Other concepts were studied, but we find these to be the key-concepts from our literature review.

We conducted in-depth case studies of 36 videogames in the platformer genre, using a model of analysis with 8 variables – Lighting Key, Camera Proxemics, Camera Perspective, Shapes, Area of Phase Space, Depth of Field, Horizon of Intent and Setting – and we distributed the focus of the variables into 3 scenes per videogame.

The findings from the research show that the possibility of using the *mise-en-jeu* framework as a method of detecting visual design patterns in videogames is existent and indicates that it can serve as a foundation for qualitative analysis of those patterns, which may lead to valid theories on the effect of the *mise-en-jeu* on player experience, but we left out that study. We conclude that the proposed framework is a valid and helpful contribution to the field of videogame studies, although further refinement and triangulation of the data of some variables is needed.

Glossary

3D computer graphics

We can relate to a three-dimensional space because we see our own world in 3D. Not only do objects in our world have length and height, as they do in the 2D space, but they also have depth associated with them. They can also be located closer or farther away from us. Every point in the 3D world is located using three coordinate values (Govil-Pai, 2004:84).

Artificial Intelligence (AI)

The development of AI as an academic research field is concerned with addressing some fundamental cybercultural questions: Can computers think? What is thinking? What separates humans from machines? An AI is a computer program that in some way mimics or replicates human thought and behaviour processes. Among the most prominent uses of AI is in game-playing, especially for games requiring strategic thinking (Bell et al., 2004:4).

Audiovisual work

A work that consists of a series of related images and accompanying sounds. Pictorial images may be shown using projectors, viewers, or electronic equipment and expressed via a filmstrip, slides, video tapes, CD-I (interactive compact disc), or DVD (Strasser, 2010:18).

Avatar

A graphic representation of a user within a graphical environment that is populated by other characters (Bell et al., 2004:5).

Cyberspace

Cyberspace is a term used to describe the space created through the confluence of electronic communications networks such as the Internet which enables computer mediated communication (CMC) between any number of people who may be geographically

dispersed around the globe. The term *cyberspace* was first coined by the writer William Gibson in his novel Neuromancer, where he described it as a consensual hallucination… A graphic representation of data abstracted from the bank of every computer in the human system. In the hands of John Perry Barlow, who popularized Gibson's term, it came to denote the emergence of an alternative virtual world, an electronic frontier (Bell et al., 2004:41).

Designer (videogames)

A person who specializes in creating videogames. A game designer can undertake all tasks in the creative process or work in a team consistent of specialists in individual disciplines. These can range from programming to level design, art, testing, amongst other tasks.

Ergodic literature

In ergodic literature, nontrivial effort is required to allow the reader to traverse the text. If ergodic literature is to make sense as a concept, there must also be nonergodic literature, where the effort to traverse the text is trivial, with no extra noematic responsibilities placed on the reader except (for example) eye movement and the periodic or arbitrary turning of pages (Aarseth, 1997:1-2).

Gameplay

Playing a game is a matter of performing the gestalt.[56] It is what the player does, within the system and as allowed by the rules of the game. In computer games, where the machine enforces the rules, this may lead to players having very poor conscious appreciation of what the rules are. Instead they have learned patterns of interaction by trial and error. A gameplay gestalt can have many forms for a game, capturing different playing styles, tactics and approaches to progressing through the game (Lindley, 2004:186).

[56] A gestalt may be understood as a configuration or pattern of elements so unified as a whole that it cannot be described merely as a sum of its parts.

Graphical User Interface (GUI)

Interface structures in videogames. They possess a broad spectrum and substantial variation and are deeply dependent in the aesthetic expression of a specific videogame. Videogame interfaces include hardware interfaces, game controllers and, as GUI, menu structures, game-related navigation and visual information styles. Today's computer games share a specific feature with contemporary graphical user interfaces and operating systems: technically, they are optimized for fast response times, and their design principle allows for the manipulation of data structures through the manipulation of visual objects. Today, in most of the computer games, the dominant paradigm of graphical interfaces defines playful action as action performed on and with images (Fromme and Unger, 2012:77-78).

Intellectual property (IP)

Refers to creations of the intellect for which a monopoly is assigned to designated owners by law (Krugman, 2015).

Ludology

The study of games, particularly computer games. Ludology is often defined as the study of game structure (or gameplay) as opposed to the study of games as narratives or games as a visual medium (Egenfeldt-Nielsen et al., 2008:251).

Narratology

The ensemble of theories of narratives, narrative texts, images, spectacles, events – of cultural artefacts that tell a story. Such theory helps us understand, analyse, and evaluate narratives. A theory is a systematic set of generalized statements about a segment of reality. That segment of reality, the corpus, about which narratology attempts to provide insight consists of narrative texts of all kinds, made for a variety of purposes and serving many

different functions (Bal, 2017:3). Within computer game research narratology is often seen as opposed to ludology. Non-player characters (NPCs), or characters in games (mostly RPGs) that are controlled by the computer that are either not controlled by human players or are controlled through a very limited range (Egenfeldt-Nielsen et al., 2008:252).

Platform

Platform is a term that refers to the operating system or console model.

Player agency

The power to take meaningful action and see the results of our decisions. We do not usually expect to experience agency within a narrative environment. Even when we are invited to participate in a traditional narrative form, our participation is circumscribed in a way that limits our sense of agency. Because of the vague use of the term interactivity, agency in electronic environments is often confused with the ability to move a joystick or a mouse. But activity alone is not agency. Agency goes beyond both participation and activity. As an aesthetic pleasure, it is more commonly available in videogames (Murray, 1997:126-129).

Virtual reality (VR)

VR is the term used to describe computer systems that create a real-time 3D audio and visual experience depicting a simulation of reality or an imagined reality. The term originally referred only to environments in which one could genuinely immerse oneself, and a user could only see and interact with VR by using a headset and a data glove (Bell et al., 2004:148).

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Appendices

Analysis Tables

Space Panic (Scene 1)
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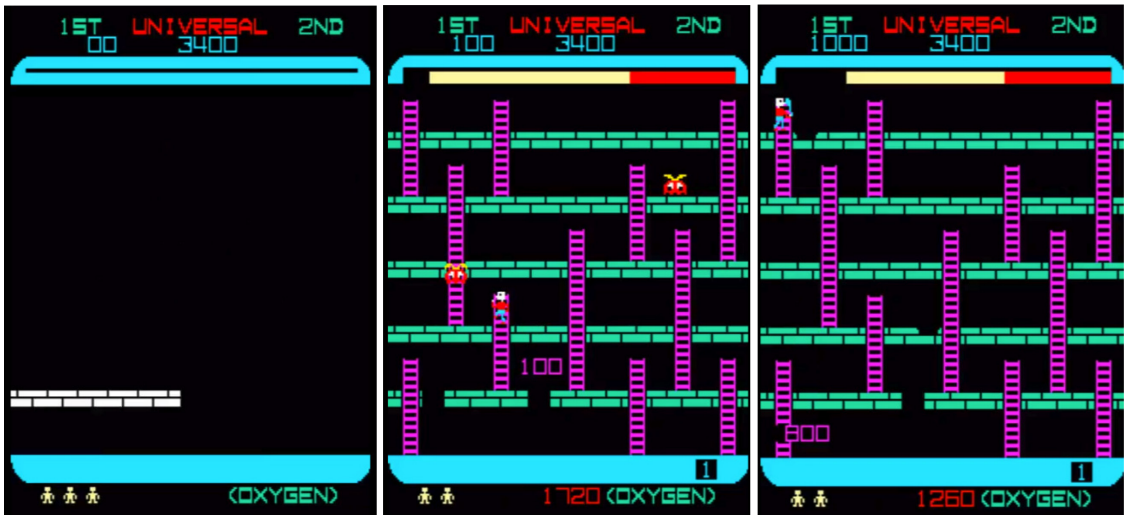
0.00-0.58

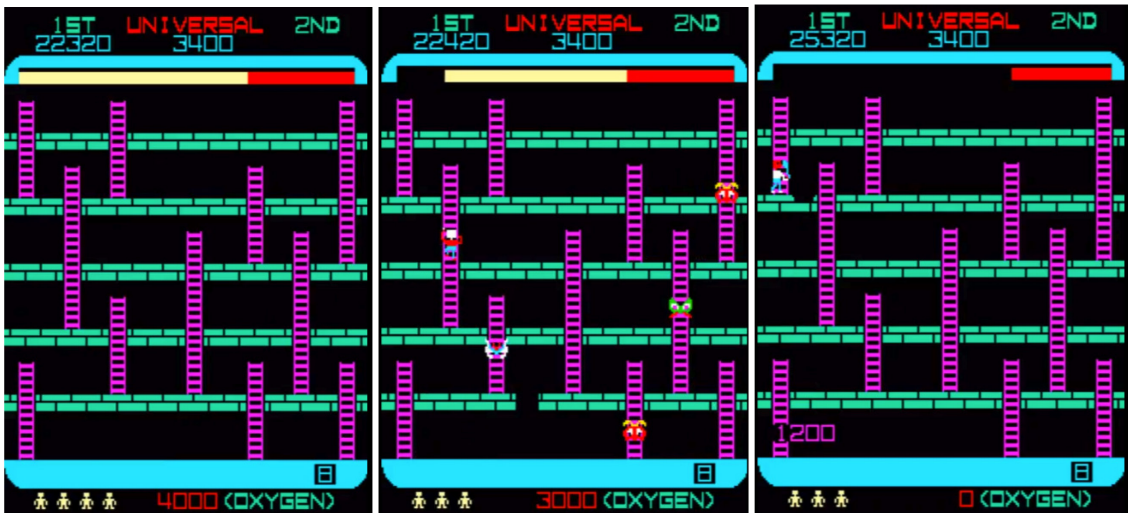


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3, C3	A2, B2, C2, A3, B3, C3	A1, B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Small	Small	Small	Small	Small
Horizon of Intent	A3, B3, C3	A3, B3, C3	A2, B2, C2	A2, B2, C2	A2, B2, C2	A1, B1, C1	A1, B1, C1

Space Panic (Scene 2)
https://www.youtube.com/watch?v=00YQfjTEjqU

10.15-11.56

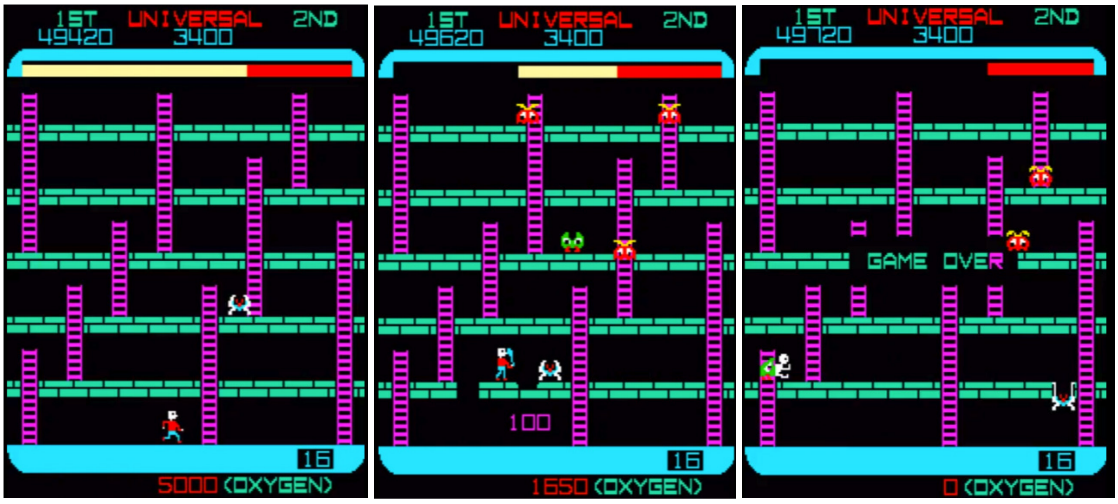


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2	A1, B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Small	Small	Small	Small	Small	Small
Horizon of Intent	A3, B3, C3	A1, B1, C1, A2, B2, C2	A1, B1, C1	A1, B1, C1	A2, B2, C2	A2, B2, C2	A1, B1, C1

Space Panic (Scene 3)
https://www.youtube.com/watch?v=00YQfjTEjqU

21.15-22.12



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Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Small	Small	Small	Small	Small	Small

Donkey Kong (Scene 1)
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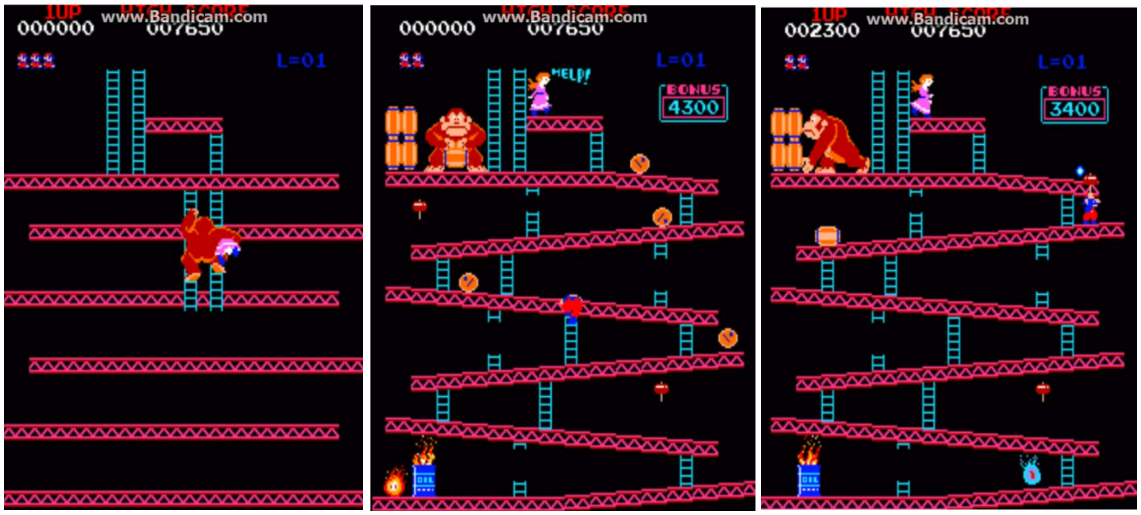

Value	Beginning	Middle	End
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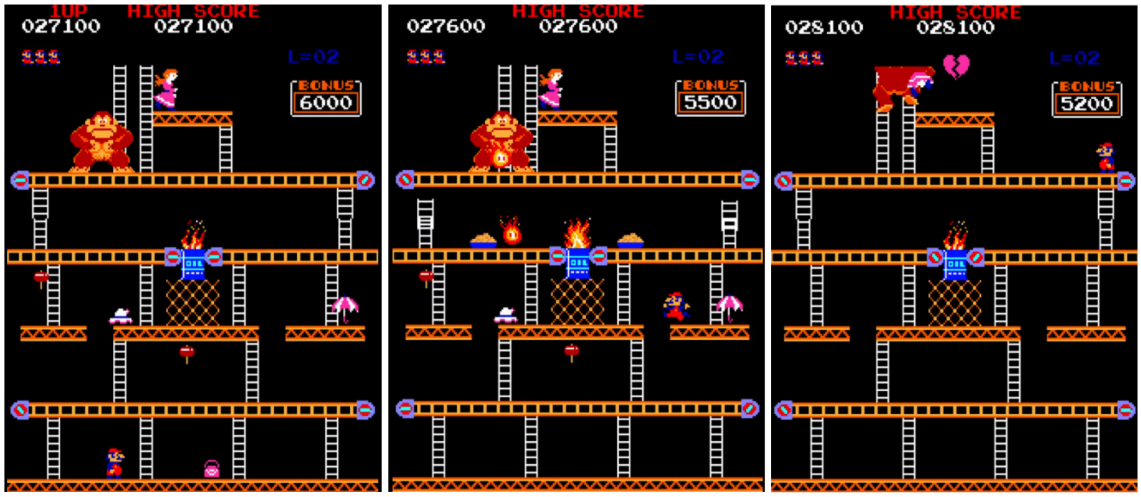
Camera Perspective	Side Static	Side Static	Side Static
Shapes	C/S	C/S	C/S
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3, C3	A1, B1, C1, A2, B2, C2	A1, B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	Middle	..	End
Area of Phase Space	Large	Large	Small	Small	Small
Horizon of Intent	A3, B3, C3	A3, B3, C3	A2, B2, C2	A1, B1, C1, A2, B2, C2	A1, B1, C1

Donkey Kong (Scene 2)
https://www.youtube.com/watch?v=63hIsjyxAGA

4.28-4.48



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3, C3	A2, B2, C2	A1, B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	Middle	..	End
Area of Phase Space	Large	Large	Small	Small	Small
Horizon of Intent	A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2	A2, B2, C2	A1, B1, C1

Donkey Kong (Scene 3)
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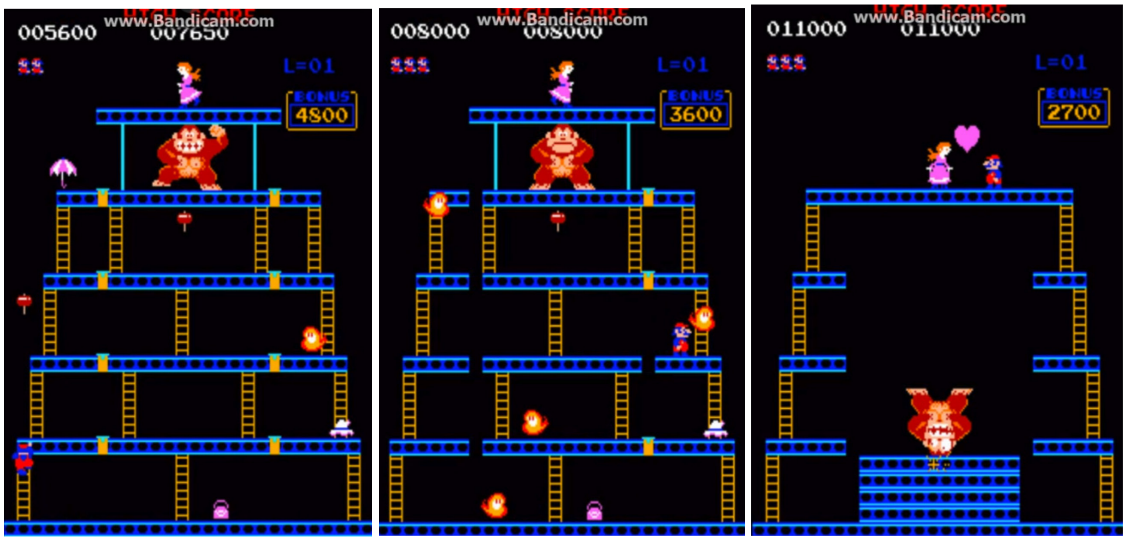

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2	A1, B1, C1, A2, B2, C2
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle
Area of Phase Space	Large	Large	Large	Small
Horizon of Intent	A3, B3, C3	A2, B2, C2	A1, B1, C1, A2, B2, C2	A1, B1, C1, A2, B2, C2

Pitfall! (Scene 1)
https://www.youtube.com/watch?v=CkDllyETiBA

0.50-1.55

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	C	C	C
Area of Phase Space	Large	Large	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2
Setting	Exterior	Exterior	Exterior

Value	Middle	..	..	..	..	End
Area of Phase Space	Large	Small	Large	Small	Small	Small

Pitfall! (Scene 2)
https://www.youtube.com/watch?v=CkDllyETiBA

1.56-2.30

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	C, S	C, S	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3, C3	A3, B3, C3	A3, B3, C3
Setting	Interior	Interior	Interior

Pitfall! (Scene 3)
https://www.youtube.com/watch?v=CkDllyETiBA

20.34-20.50

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2
Setting	Exterior	Exterior	Exterior

Value	Middle	..	..	End
Area of Phase Space	Small	Small	Small	Large

BurgerTime (Scene 1)
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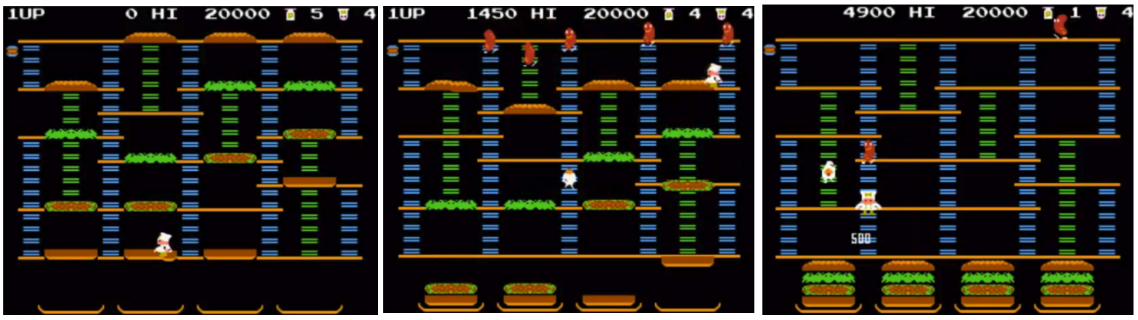
0.27-2.04



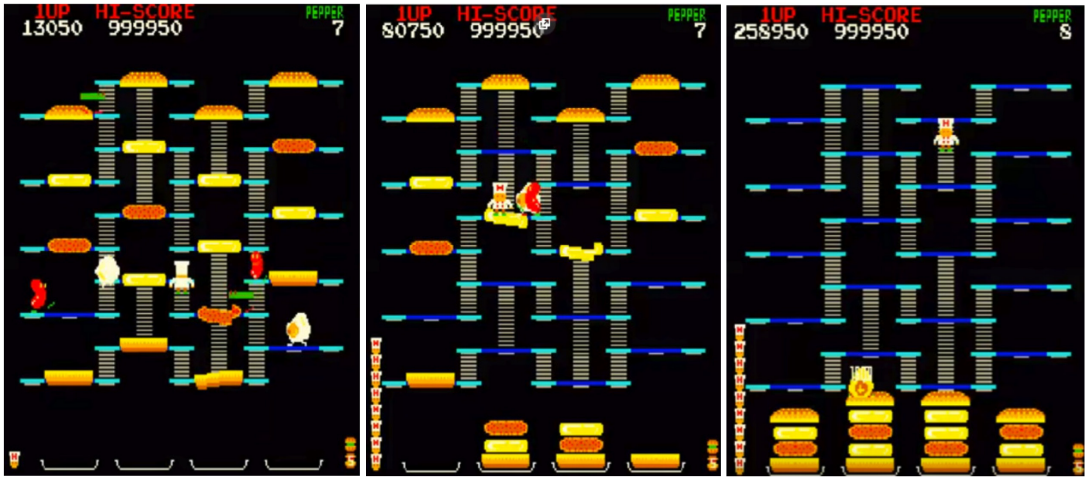
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

BurgerTime (Scene 2)
https://www.youtube.com/watch?v=oageYDoZw5Y

0.00-1.44

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

BurgerTime (Scene 3)
https://www.youtube.com/watch?v=Qgz0Y9yklEI



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Donkey Kong Jr. (Scene 1)
https://www.youtube.com/watch?v=0kvgpSn7f_4

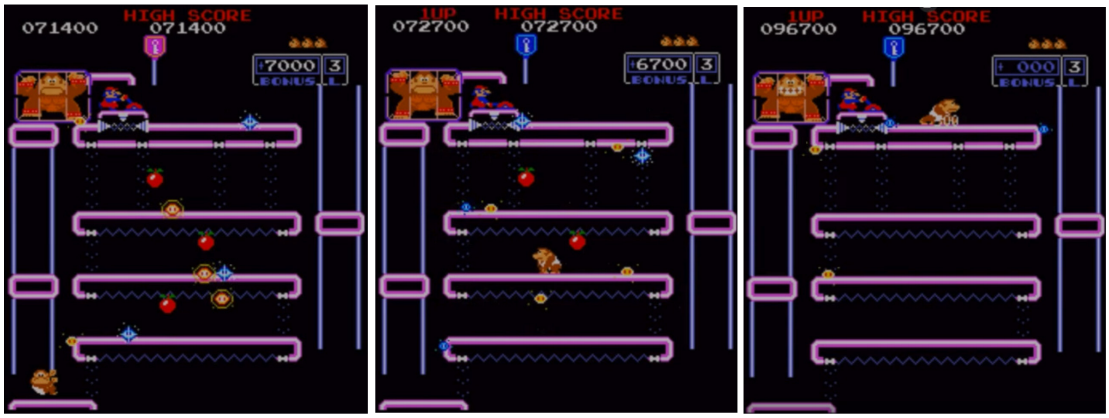
0.15-2.31

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, A3, B3	B1, C1, B2, C2, B3, C3	A1, B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	Middle	..	End
Area of Phase Space	Large	Small	Small	Small	Small
Horizon of Intent	A2, B2, A3, B3	B2, C2, B3, C3	B2, C2, B3, C3	B1, C1, B2, C2,	A1, B1, C1

Donkey Kong Jr. (Scene 2)
https://www.youtube.com/watch?v=0kvgpSn7f_4

13.35-17.03

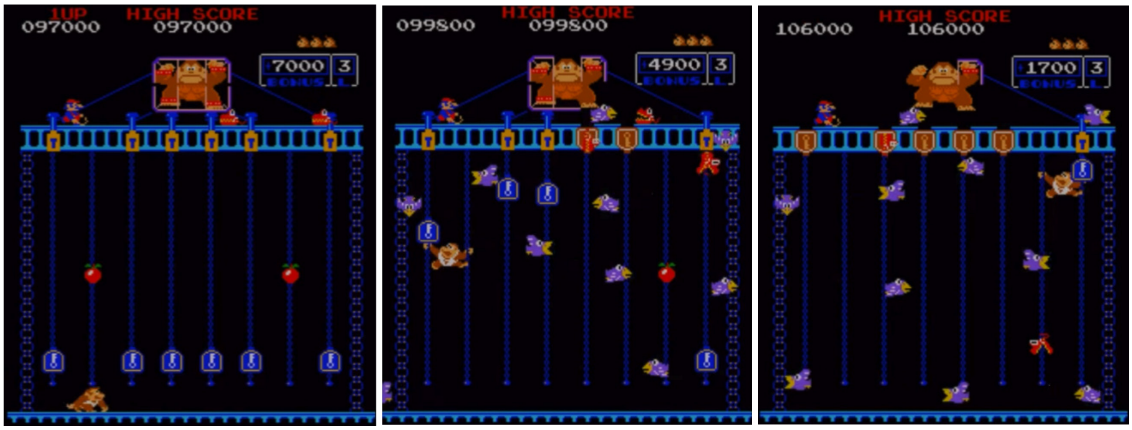


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	B1, C1, A2, B2, C2	B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	Middle	..	End
Horizon of Intent	A2, B2, C2, A3, B3, C3	A2, B2, C2	A2, B2, C2	B1, C1, B2, C2	B1, C1

Donkey Kong Jr. (Scene 3)
https://www.youtube.com/watch?v=0kvgpSn7f_4

17.08-18.32



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S/C	S/C	S/C
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	B1, C1
Setting	N/A	N/A	N/A

Value	Beginning	..	Middle	..	End
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3	A1, B1, C1, A2, B2, C2, B3, C3	B1, C1	B1, C1

Manic Miner (Scene 1)
https://www.youtube.com/watch?v=BgUzteADsRI

0.01-0.56

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Manic Miner (Scene 2)
https://www.youtube.com/watch?v=BgUzteADsRI

12.31-13.35

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Value	Beginning	..	Middle	..	End
Area of Phase Space	Large	Large	Small	Small	Small

Manic Miner (Scene 3)
https://www.youtube.com/watch?v=BgUzteADsRI

22.00-23.11

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Small	Small	Small	Small	Large

Chuckie Egg (Scene 1)
https://www.youtube.com/watch?v=rEiY2HBihTI

0.04-0.30

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Chuckie Egg (Scene 2)
https://www.youtube.com/watch?v=v5IEyJgawbg

0.04-0.40

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Chuckie Egg (Scene 3)
https://www.youtube.com/watch?v=E4loQjf7v-M

7.38-9.59

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Jet Set Willy (Scene 1)
https://www.youtube.com/watch?v=94Ywx6uVn9E

0.04-0.13

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Jet Set Willy (Scene 2)
https://www.youtube.com/watch?v=94Ywx6uVn9E

21.49-22.19

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Jet Set Willy (Scene 3)
https://www.youtube.com/watch?v=94Ywx6uVn9E

44.05-44.21

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Super Mario Bros. (Scene 1)
https://www.youtube.com/watch?v=PsC0zIhWNww

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Large, Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..
Area of Phase Space	Large	Large	Large	Small	Small
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3

Super Mario Bros. (Scene 2)
https://www.youtube.com/watch?v=PBx8KyredNs

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..
Area of Phase Space	Large	Large	Small	Small	Small
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3

Super Mario Bros. (Scene 3)
https://www.youtube.com/watch?v=OXTw9OMWiy0

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, B2, B3	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Small	Small	Small	Small	Small	Small
Horizon of Intent	A1, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3

Ghosts 'n Goblins (Scene 1)

https://www.youtube.com/watch?v=SugLAqaPhqA

0.55-2.41

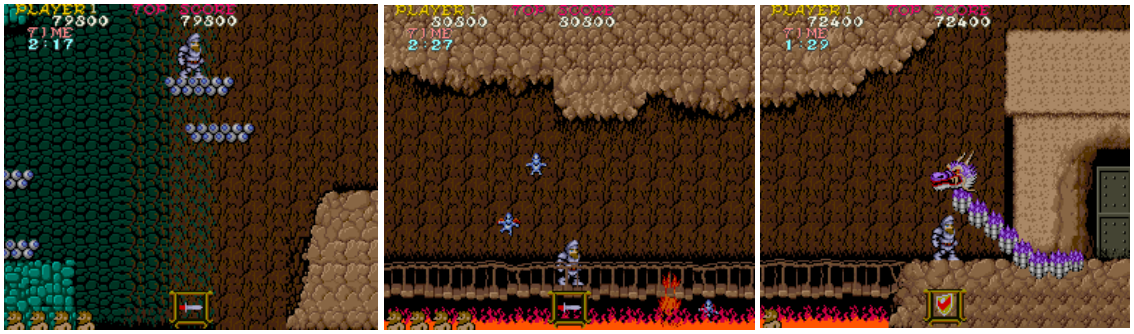
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C, T	S, C, T	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior	Exterior

Value	..	Middle	..	..	End
Shapes	S, C, T	S, C, T	S, C	S, C	S, C

Ghosts 'n Goblins (Scene 2)

https://www.youtube.com/watch?v=SugLAqaPhqA

8.18-9.52



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3	A2, B2, A3, B3
Setting	Interior	Interior	Interior

Value	..	Middle	..	..	End
Horizon of Intent	A1, B1, A2, B2, A3, B3	A2, B2, A3, B3	A2, B2, A3, B3	A2, B2, A3, B3	A2, B2, A3, B3

Ghosts 'n Goblins (Scene 3)

https://www.youtube.com/watch?v=SugLAqaPhqA

36.18-36.43

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2	A2, B2	A2, B2
Setting	Interior	Interior	Interior

Alex Kidd: The Lost Stars (Scene 1)
https://www.youtube.com/watch?v=FO1MiFD0QQo

0.08-1.16

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3, C3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	Middle	..	End
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3, C3

Alex Kidd: The Lost Stars (Scene 2)
https://www.youtube.com/watch?v=FO1MiFD0QQo

4.52-6.55

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3, C3
Setting	Interior	Interior	Interior

Value	Beginning	..	Middle	..	End
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3, C3

Alex Kidd: The Lost Stars (Scene 3)
https://www.youtube.com/watch?v=FO1MiFD0QQo

10.33-11.43

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3, C3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	Middle	..	End
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3, C3

The 3-D Battles of WorldRunner (Scene 1)
https://www.youtube.com/watch?v=TXBVZK5nhZs

0.05-0.38

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

The 3-D Battles of WorldRunner (Scene 2)
https://www.youtube.com/watch?v=TXBVZK5nhZs

11.10-12.27

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

The 3-D Battles of WorldRunner (Scene 3)
https://www.youtube.com/watch?v=TXBVZK5nhZs

20.00-22.40

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

Mega Man (Scene 1)

https://www.youtube.com/watch?v=vY8gz-Ijw1k

0.15-2.38

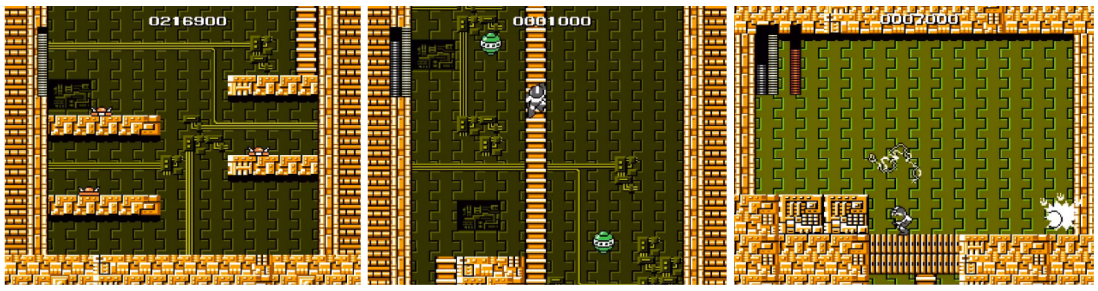
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static/Scrolling	Side Static/Scrolling	Side Static
Shapes	C, S	C, S	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior, Interior	Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Camera Perspective	Side Scrolling	Side Static	Side Scrolling	Side Static	Side Scrolling	Side Static	Side Static	Side Static	Side Static
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, C2, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, C2, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A2, B2, B3	B1, B2, B3	B1, B2, B3	A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior	Exterior	Exterior	Interior	Interior	Interior	Interior

Mega Man (Scene 2)

https://www.youtube.com/watch?v=86UayEWiDKc

0.15-10.05



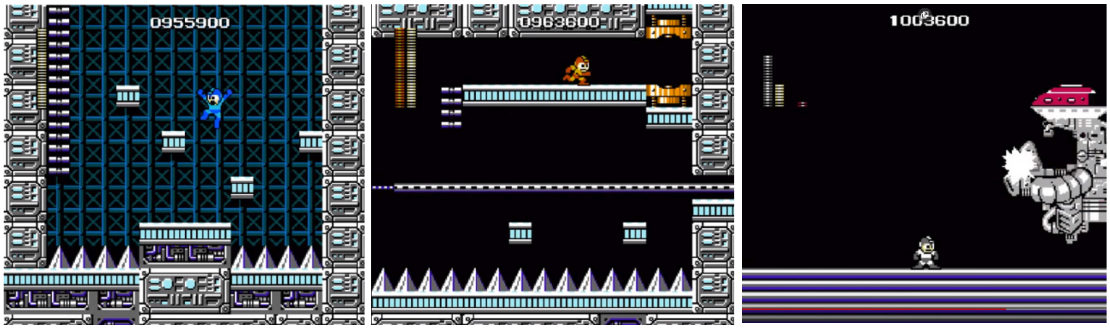
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static/Scrolling	Side Static
Shapes	S, C	S, C	S, C
Area of Phase Space	Small	Large, Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	B2, C2, B3, C3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Camera Perspective	Side Static	Side Static	Side Static	Side Scrolling	Side Static	Side Static	Side Scrolling	Side Static	Side Static
Area of Phase Space	Small	Small	Small	Large	Small	Small	Large	Small	Small
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	C1, A2, B2, C2, A3, B3, C3	B1,C1, B2, C2, B3, C3	A1, B1, A2, B2, A3, B3	C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	B2, C2, B3, C3

Mega Man (Scene 3)

https://www.youtube.com/watch?v=oAWYHMaj1p0

0.03-4.10



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static/Scrolling	Side Static/Scrolling	Side Static
Shapes	S, T, C	S, T, C	S, C
Area of Phase Space	Small	Small, Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	N/A

Value	Beginning	..	..	..	Middle	..	..	..	End
Camera Perspective	Side Static	Side Static	Side Scrolling	Side Static	Side Static	Side Static	Side Static	Side Scrolling	Side Static
Shapes	S, T, C	S, C	S, T, C	S, C	S, C	S, C	S, C	S, C	S, C
Area of Phase Space	Small	Small	Small	Large	Large	Large	Large	Large	Large
Horizon of Intent	A1, B1, B2, B3	A1, A2, A3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A3, B3, C3	A3, B3, C3	A3, B3, C3	A3, B3, C3	A3, B3, C3	A3, B3, C3
Setting	Interior	Interior	Interior	Interior	Interior	Interior	Interior	Interior	N/A

Shadow of the Beast (Scene 1)
https://www.youtube.com/watch?v=e-U6HUaAONI

2.13-3.10

Value	Beginning	Middle	End
Lighting Key	HK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, T	C, T	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	..	Middle	..
Lighting Key	HK	LK	LK	LK	LK	LK

Shadow of the Beast (Scene 2)
https://www.youtube.com/watch?v=e-U6HUaAONI

13.16-16.24

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, T	C, T	C
Area of Phase Space	Large	Small, Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Shapes	C, T	C, T	C, T	C, T	C, T	C, T	C
Area of Phase Space	Large	Small	Large	Small	Small	Large	Large

Shadow of the Beast (Scene 3)
https://www.youtube.com/watch?v=e-U6HUaAONI

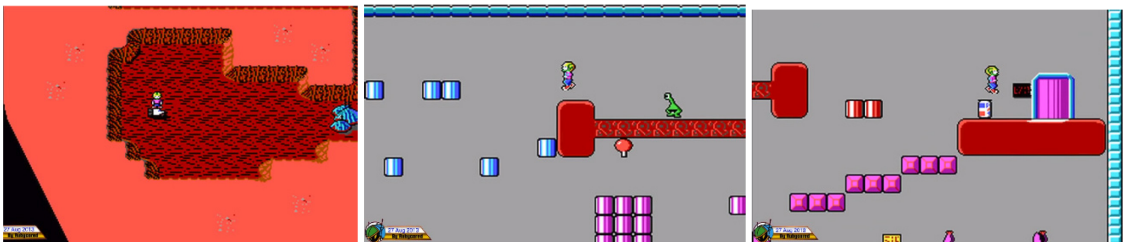
27.34-29.53

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, T	C, T	C, T
Area of Phase Space	Large	Large	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Large	Large	Large	Small	Small

Commander Keen in Invasion of the Vorticons (Scene 1)
https://www.youtube.com/watch?v=YUyQSfKRU1w

2.37-3.45

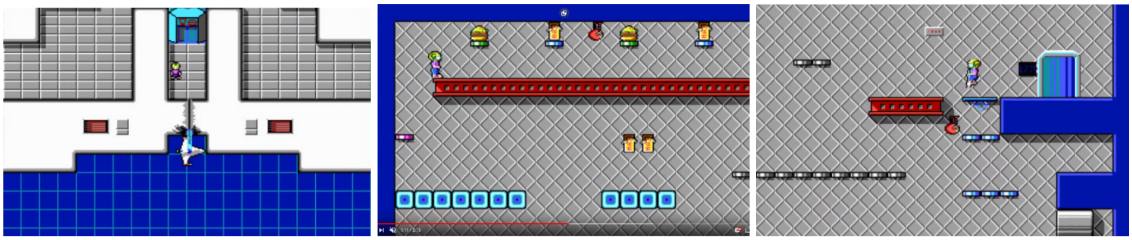


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Isometric	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B1, B2, B3	A1, A2, A3, B1, B2, B3	B1, B2, B3, C2
Setting	Exterior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Camera Perspective	Isometric	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling
Horizon of Intent	B1, B2, B3	A1, A2, A3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3, C2
Setting	Exterior	Interior	Interior	Interior	Interior	Interior	Interior

Commander Keen in Invasion of the Vorticons (Scene 2)
https://www.youtube.com/watch?v=NpJtM3p9dk8

0.53-2.18

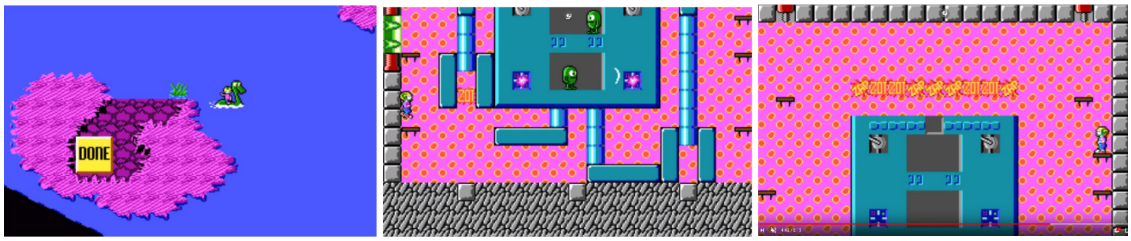


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Isometric	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	A1, A2, A3, B1, B2, B3	B1, B2, B3, C2
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Camera Perspective	Isometric	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling
Horizon of Intent	B2	A1, A2, A3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3, C2

Commander Keen in Invasion of the Vorticons (Scene 3)
https://www.youtube.com/watch?v=GTubjfhbjAs

0.00-4.49



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Isometric	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B1, C1, B2, C2, B3, C3	A1, A2, A3, B3	C1, C2, C3
Setting	Exterior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Camera Perspective	Isometric	Isometric	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling
Area of Phase Space	Large	Large	Small	Small	Small	Small	Small
Horizon of Intent	B1, C1, B2, C2, B3, C3	B1, C1, B2, C2, B3, C3	A1, A2, A3	A1, A2, A3	A1, A2, A3, B3	B3	C1, C2, C3
Setting	Exterior	Exterior	Interior	Interior	Interior	Interior	Interior

Sonic The Hedgehog (Scene 1)
https://www.youtube.com/watch?v=ZLhCGP0mLRs

0.15-1.14

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, T	C, T	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3

Sonic The Hedgehog (Scene 2)
https://www.youtube.com/watch?v=-HMxtBR2740

3.40-6.55

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Small	Small	Small	Small	Small	Large
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3

Sonic The Hedgehog (Scene 3)
https://www.youtube.com/watch?v=dJJnxHcv1z4

51.38-53.15

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	B1, B2, B3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Small	Small	Small	Small	Small	Large
Horizon of Intent	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	B1, B2, B3

Super Metroid (Scene 1)

https://www.youtube.com/watch?v=oEAZa9Z0KwA

0.30-3.08

Value	Beginning	Middle	End
Lighting Key	HK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling/Static	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	HK	HK	HK	HK	HK	HK, LK	HK, LK
Camera Perspective	Side Scrolling	Side Scrolling	Side Static	Side Static	Side Static	Side Scrolling	Side Scrolling
Area of Phase Space	Large	Large	Large	Large	Large	Large	Small

Super Metroid (Scene 2)

https://www.youtube.com/watch?v=ThH-Dig2VmA

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

Super Metroid (Scene 3)

https://www.youtube.com/watch?v=tRtViIQvfPc

0.09-16.37



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

Earthworm Jim (Scene 1)

https://www.youtube.com/watch?v=93osCGBFG2k

1.43-6.14

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling, Side Static	Side Scrolling
Shapes	C, T, S	C, T, S	C, T, S
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2	A1, B1, C1, A2, B2, C3	A2, B2, C2, C3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling	Side Scrolling	Side Static	Side Scrolling	Side Scrolling
Horizon of Intent	A2, B2, C2	A2, B2, C2	A1, B1, C1, A2, B2, C3	A2, B2, C2	A2, B2, C2	A2, B2, C2	A2, B2, C2, C3

Earthworm Jim (Scene 2)

https://www.youtube.com/watch?v=93osCGBFG2k

29.29-42.51

Value	Beginning	Middle	End
Lighting Key	HK, LK	HK, LK, HC	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Small, Large	Small, Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2	A2, B2, C2	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Lighting Key	HK, LK	HK, LK	HK, LK	HK, LK	HC	HC	HK, LK	HK, LK	HK, LK
Area of Phase Space	Large	Small	Small	Large	Large	Small	Large	Small	Small, Large
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2	A1, B1, C1, A2, B2, C3	A2, B2, C2	A2, B2, C2	A2, B2, C2	A2, B2, C2	A1, B1, C1, A2, B2, C2, A3, B3, C3

Earthworm Jim (Scene 3)

https://www.youtube.com/watch?v=93osCGBFG2k

51.29-57.03

Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B1, B2, C2	A2, B2, C2, A3, B3, C3	B2, B3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Horizon of Intent	B1, B2, C2	A2, B2, C2	A2, B2, C2	A2, B2, C2	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2	B2, B3	B2, B3

Donkey Kong Country (Scene 1)
https://www.youtube.com/watch?v=DoaaAuLmGyU

1.25-3.46

Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C	C	C
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3
Setting	Exterior	Exterior	Exterior

Donkey Kong Country (Scene 2)
https://www.youtube.com/watch?v=ZywD6EATiFI



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, T	C, T	C, T
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3
Setting	Exterior	Exterior	Exterior

Donkey Kong Country (Scene 3)
https://www.youtube.com/watch?v=TvpRdZJpZnU

0.00-1.36



Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3

Super Mario 64 (Scene 1)

https://www.youtube.com/watch?v=mHBfzdUC2EU

0.42-2.36



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Small	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Small	Small	Small	Large	Large

Super Mario 64 (Scene 2)

https://www.youtube.com/watch?v=y04DBLimGbs

0.33-1.32



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C	S, C, T	S, C, T
Area of Phase Space	Large	Small, Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Shapes	S, C	S, C	S, C, T	S, C, T	S, C	S, C	S, C, T
Area of Phase Space	Large	Large	Small	Small	Large	Large	Large

Super Mario 64 (Scene 3)

https://www.youtube.com/watch?v=fpgqNCf3JSc

3.07-5.36



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, T	C, T	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	N/A	N/A	N/A

Crash Bandicoot (Scene 1)

https://www.youtube.com/watch?v=v0asnLZeYvE

0.15-1.37



Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

Crash Bandicoot (Scene 2)

https://www.youtube.com/watch?v=Px_A9l0mpwo

0.07-5.37



Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C, T	S, C, T
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	..	Middle	..	..	..	End
Shapes	S, C	S, C	S, C	S, C	S, C, T	S, C	S, C, T	S, C	S, C, T

Crash Bandicoot (Scene 3)

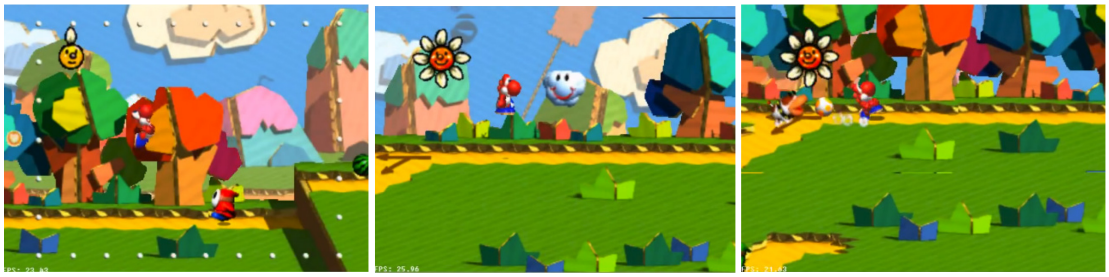
https://www.youtube.com/watch?v=8Um-JPYyBe8

0.07-2.10

Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Static	Side Static	Side Static
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

Yoshi's Story (Scene 1)
https://www.youtube.com/watch?v=qqVm8QWIb_U

0.12-2.32



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S, T	C, S, T	C, S, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3	A1, B1, A2, B2, A3, B3
Setting	Exterior	Exterior	Exterior

Yoshi's Story (Scene 2)
https://www.youtube.com/watch?v=EAj9PpYXYLQ

0.05-1.40

Value	Beginning	Middle	End
Lighting Key	HK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C	C	C
Area of Phase Space	Large	Large, Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior, Interior	Exterior, Interior

Value	Beginning	..	Middle	..	End
Lighting Key	HK	HK	LK	HK	LK
Area of Phase Space	Large	Large	Small	Small	Small
Setting	Exterior	Exterior	Interior	Exterior	Interior

Yoshi's Story (Scene 3)
https://www.youtube.com/watch?v=PpGXc8kP7I4

0.00-1.42

Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S, T	C, S, T	C, S, T
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

Banjo-Kazooie (Scene 1)

https://www.youtube.com/watch?v=w7bRGDZV23I

3.57-16.13

Value	Beginning	Middle	End
Lighting Key	LK, HK	LK, HK	LK, HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, T, S	C, T	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, C2	A2, B2, C2	A2, B2, C2
Setting	Exterior	Exterior	Exterior, Interior

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	LK, HK	HK	HK, LK	HK	HK, LK	HK, LK	HK, LK
Shapes	C, T, S	C, T	C, T	C, T	C, T	C, T	C, T
Horizon of Intent	B2, C2	A2, B2, C2	B2	B2	B2	A2, B2, C2	A2, B2, C2
Setting	Exterior	Exterior	Exterior	Exterior	Exterior	Exterior	Interior, Exterior

Banjo-Kazooie (Scene 2)

https://www.youtube.com/watch?v=3M_dlt9HLNM

0.00-20.02

Value	Beginning	Middle	End
Lighting Key	HK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	T, C, S	T, C, S	T, C, S
Area of Phase Space	Large	Large, Small	Large, Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	B1, B2, B3	B1, B2
Setting	Exterior	Exterior, Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	HK	HK	HK	HK	LK	HK, LK	HK, LK
Area of Phase Space	Large	Large	Large	Large	Small	Large	Large, Small
Horizon of Intent	B2	B1, B2	B1, B2	B1, B2	B1, B2, B3	B1, B2	B1, B2
Setting	Exterior	Exterior	Exterior	Exterior	Interior	Exterior, Interior	Interior

Banjo-Kazooie (Scene 3)

https://www.youtube.com/watch?v=Koh05tfGPpA

0.37-9.34

Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	B2	B2
Setting	Exterior	Exterior	Exterior

Spyro the Dragon (Scene 1)

https://www.youtube.com/watch?v=_nhDtDBmZLQ

1.57-5.45



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, T	C, T, S	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	B2, B3	B2
Setting	Exterior	Exterior, Interior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Shapes	C, T	C, T	C, T	C, T	C, T, S	C, T	C, T
Horizon of Intent	B2	B2	B2	B2	B2, B3	B2	B2
Setting	Exterior	Exterior	Exterior	Exterior	Interior	Exterior	Exterior

Spyro the Dragon (Scene 2)

https://www.youtube.com/watch?v=_nhDtDBmZLQ

2.11.55-2.19.40



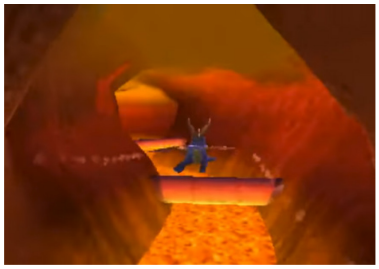
Value	Beginning	Middle	End
Lighting Key	LK	HK, LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A, Applicable	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior, Interior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	LK	LK	HK, LK	HK, LK	LK	LK	LK
Depth of Field	N/A	N/A	N/A	N/A	N/A	Applicable	N/A
Setting	Exterior	Exterior, Interior	Exterior	Exterior	Exterior, Interior	Exterior	Exterior

Spyro the Dragon (Scene 3)

https://www.youtube.com/watch?v=_nhDtDBmZLQ

4.09.24-4.18.54


Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot, Full Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, T, S	C, T, S	C, T, S
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	B2, B3	B2, B3
Setting	Exterior	Interior, Exterior	Interior

Value	Beginning	..	..	Middle	..	..	End
Camera Proxemics	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot, Full Shot
Horizon of Intent	B2	B2, B3	B2, B3	B2	B2	B2, B3	B2, B3
Setting	Exterior	Exterior	Interior, Exterior	Interior, Exterior	Interior, Exterior	Interior	Interior

Sonic Adventure (Scene 1)

https://www.youtube.com/watch?v=qnNTj0zwMFU

0.10-2.36



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S,C	S,C	S,C
Area of Phase Space	Large	Large, Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Large	Small	Small	Large	Large

Sonic Adventure (Scene 2)

https://www.youtube.com/watch?v=Oela0BEC2ME

0.21-3.20



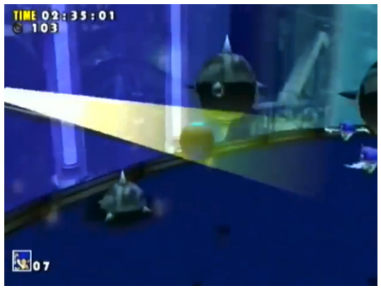
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Small	Small, Large	Small, Large
Depth of Field	N/A	Applicable	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior, Interior	Exterior, Interior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Small	Small	Small, Large	Large	Small	Large	Small, Large
Depth of Field	N/A	N/A	N/A	N/A	Applicable	N/A	N/A
Setting	Exterior	Exterior	Exterior	Exterior, Interior	Interior	Exterior	Exterior, Interior

Sonic Adventure (Scene 3)

https://www.youtube.com/watch?v=eHXPuMiEZ6k

0.08-5.27


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C, T	S, C, T	S, C, T
Area of Phase Space	Large	Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Small	Small	Small	Large	Large

Donkey Kong 64 (Scene 1)

https://www.youtube.com/watch?v=lasUDCmE8Pw

0.37-13.15



Value	Beginning	Middle	End
Lighting Key	HK, LK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, S	C, S	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	B2	B2
Setting	Exterior, Interior	Exterior, Interior	Exterior, Interior

Donkey Kong 64 (Scene 2)

https://www.youtube.com/watch?v=hWlPSvbE4zs

Value	Beginning	Middle	End
Lighting Key	LK	LK, HK, HC	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person, First Person	Third Person, First Person, Side Scrolling	Third Person, First Person
Shapes	C, S	C, S, T	C, S
Area of Phase Space	Large, Small	Large, Small	Large, Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior, Interior	Exterior, Interior	Exterior, Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Lighting Key	LK	LK, HK	LK	LK, HK	LK, HK	LK	LK	LK, HC	LK
Camera Perspective	TPS, FPS	TPS, FPS	TPS, FPS	TPS, FPS	TPS, FPS	TPS, FPS	TPS, FPS, Side Scroll.	TPS, FPS	TPS, FPS
Shapes	C, S	C, S	C, S	C, S	C, S, T	C, S, T	C, S	C, S	C, S

Donkey Kong 64 (Scene 3)

https://www.youtube.com/watch?v=CW10NYOl9v4

2.23-18.30

Value	Beginning	Middle	End
Lighting Key	LK, HK	LK, HK	LK, HK
Camera Proxemics	Long Shot	Long Shot	Long Shot, Full Shot
Camera Perspective	Third Person, First Person	Third Person, Side Static	Third Person
Shapes	S,C	S,C	S,C
Area of Phase Space	Large, Small	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Camera Proxemics	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot, Full Shot	Long Shot, Full Shot
Camera Perspective	Third Person, First Person	Third Person	Third Person	Third Person	Third Person, Side Static	Third Person, Side Static	Third Person	Third Person	Third Person
Area of Phase Space	Large, Small	Large	Large	Large	Large	Large	Large	Large	Large

Jak and Daxter: The Precursor Legacy (Scene 1)

https://www.youtube.com/watch?v=9lpq3zVXs9A

6.40-7.33



Value	Beginning	Middle	End
Lighting Key	HK, LK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C	C, T	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B2, B3	B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	Middle	..	End
Shapes	C	C	C	C, T	C, T

Jak and Daxter: The Precursor Legacy (Scene 2)

https://www.youtube.com/watch?v=9lpq3zVXs9A

2.04.08-2.08.31


Value	Beginning	Middle	End
Lighting Key	LK, HK, HC	LK, HK, HC	LK, HK, HC
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person, First Person	Third Person, First Person, Side Scrolling	Third Person, Side Scrolling
Shapes	C, S, T	C, S, T	C, S, T
Area of Phase Space	Large	Large, Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior, Interior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Camera Perspective	TPS, FPS	TPS, FPS	TPS, FPS	TPS	TPS, FPS	TPS, Side Scrolling	TPS, Side Scrolling
Area of Phase Space	Large	Small	Large	Large	Small	Small	Large
Horizon of Intent	B2, B3	B2, B3	B2, B3	B2, B3	B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior	Interior	Interior, Exterior	Exterior	Exterior

Jak and Daxter: The Precursor Legacy (Scene 3)

https://www.youtube.com/watch?v=9lpq3zVXs9A

4.00.50-4.04.37



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot, Full Shot	Long Shot	Long Shot
Camera Perspective	Third Person, First Person	Third Person, First Person	Third Person, First Person
Shapes	C	C	C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B1, A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	..	..	..	Middle
Camera Proxemics	Long Shot, Full Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot	Long Shot
Horizon of Intent	B1, A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3

Super Mario Sunshine (Scene 1)

https://www.youtube.com/watch?v=QoXaRPyvJyM

2.55-5.08



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, S	C, S	C
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2, C3
Setting	Exterior	Exterior	Exterior

Value	Middle	..	..	..	..	..	End
Shapes	C, S	C, S	C, S	C	C	C	C
Horizon of Intent	B2	B2	B2	B2	B2, C3	B2	B2

Super Mario Sunshine (Scene 2)

https://www.youtube.com/watch?v=QoXaRPyvJyM

52.54-54.07

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, S	C	C
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2, C3	B2	B2
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	..	..	..	Middle
Shapes	C, S	C, S	C	C	C	C	C
Horizon of Intent	B2	C3	B2	B2	B2	B2	B2

Super Mario Sunshine (Scene 3)

https://www.youtube.com/watch?v=QoXaRPyvJyM

1.37.36-1.41.34

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	S, C, T	C, T	C, T
Area of Phase Space	Large	Small	Small
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2, B3	B2, B3
Setting	Interior	Exterior	Exterior

Value	Beginning	..	..	..	..	..	..	..	Middle
Shapes	S, C, T	S, C, T	S, C, T	S, C, T	S, C, T	S, C, T	S, C, T	C, T	C, T
Area of Phase Space	Large	Small	Small	Small	Small	Small	Small	Small	Small
Horizon of Intent	B2	B2, B3	B2, B3	B2, B3	B2, B3	B2, B3	B2, B3	B2, B3	B2, B3
Setting	Int.	Int.	Int.	Int.	Int.	Int.	Int.	Ext.	Ext.

New Super Mario Bros. (Scene 1)

https://www.youtube.com/watch?v=pUevbch2tAQ

0.45-2.53

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, T, S	C, S	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B2, B3	A1, B1, A2, B2, A3, B3, C3	B1, B2, B3
Setting	Exterior	Exterior, Interior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Shapes	C, T, S	C, S	C, S	C, S	C, S	C, S	C, S
Horizon of Intent	A3, B2, B3	B1, B2, B3	A1, B1, A2, B2, A3, B3, C3	B1, B2, B3	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Interior	Exterior	Exterior	Exterior	Exterior

New Super Mario Bros. (Scene 2)

https://www.youtube.com/watch?v=V7IybLIBaBQ

25.18-27.30

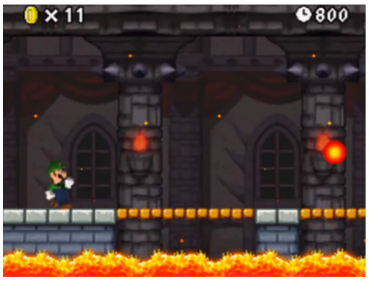
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Small	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A2, B1, B2, B3	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Horizon of Intent	A2, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3

New Super Mario Bros. (Scene 3)

https://www.youtube.com/watch?v=iJ3x4ClbORU

26.28-31.14



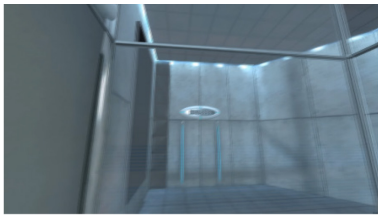
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S, T	C, S, T	C, S, T
Area of Phase Space	Large	Large, Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	C1, A2, B2	A1, B1, C1, A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3
Setting	Interior	Interior	Interior

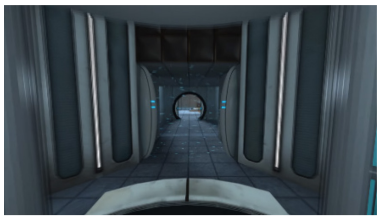
Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Small	Small	Small	Small	Large
Horizon of Intent	A1, B2, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A3, B1, B2, B3	B1, A2, B2, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A2, B2, C2, A3, B3, C3

Portal (Scene 1)

https://www.youtube.com/watch?v=oIgHVsImbCo

0.14-2.23





Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	First Person	First Person	First Person
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Small, Large	Large
Depth of Field	N/A	N/A, Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Small	Small	Small	Large	Large	Large	Large
Depth of Field	N/A	N/A	N/A	Applicable	Applicable	Applicable	Applicable

Portal (Scene 2)

https://www.youtube.com/watch?v=ZFwxnKY7CUo

0.09-2.40



Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	First Person	First Person	First Person
Shapes	C, S	C, S	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Interior	Interior	Interior

Portal (Scene 3)

https://www.youtube.com/watch?v=P8XqFHtu1ml

0.09-8.49


Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	First Person	First Person	First Person
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Small	Large	Large	Large	Large	Large	Large

Super Mario Galaxy (Scene 1)

https://www.youtube.com/watch?v=S2fu4p3NFt4

15.33-17.39



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C	C	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B1, B2
Setting	Exterior	Exterior	Exterior

Value	Middle	..	..	..	End
Shapes	C	C	C	C	C, T
Horizon of Intent	B2	B2	B2	B2	B1, B2

Super Mario Galaxy (Scene 2)

https://www.youtube.com/watch?v=S2fu4p3NFt4

1.29.25-1.30.28

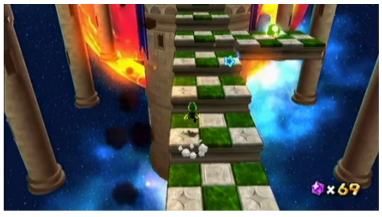
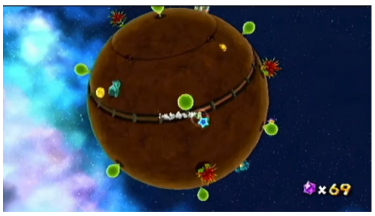
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C	C	C, T
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Exterior	Exterior	Exterior

Value	Middle	..	..	..	End
Shapes	C	C	C	C	C, T

Super Mario Galaxy (Scene 3)

https://www.youtube.com/watch?v=S2fu4p3NFt4

2.52.00-2.55.37


Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C	C	C
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Exterior	Exterior	Exterior

Braid (Scene 1)

https://www.youtube.com/watch?v=Urv-UGogWxo

2.30-4.33

Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large, Small	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3, C1
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large	Large	Small	Small	Small	Large
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3, C1

Braid (Scene 2)

https://www.youtube.com/watch?v=0t1gLbexUKA

3.32- 7.14

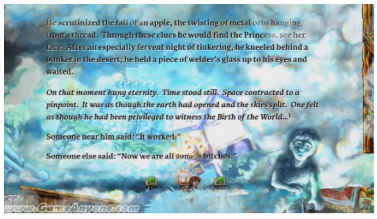
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small, Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Large, Small	Small	Small	Small	Small, Large	Large
Horizon of Intent	A3, B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1

Braid (Scene 3)

https://www.youtube.com/watch?v=G7gtxVp88gk

2.26-6.13



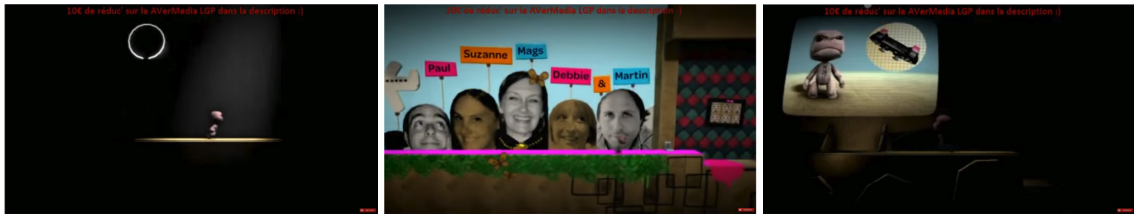
Value	Beginning	Middle	End
Lighting Key	LK	LK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A1, B2, B3, C3	B2, A3, B3, C3	B1, C1, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Horizon of Intent	A1, B2, B3, C3	B2, A3, B3, C3	B2, A3, B3, C3	B3	A3, B3, C3	A3, B3, C3	B1, C1, B2, C2, A3, B3, C3

LittleBigPlanet (Scene 1)

https://www.youtube.com/watch?v=pkO35FThrNs

7.55-11.44



Value	Beginning	Middle	End
Lighting Key	HC	LK	HC
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C	C, S	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2
Setting	N/A	N/A	N/A

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	HC	LK	LK	LK	LK	HC	HC
Shapes	C	C	C, S	C, S	C, S	C, S	C, S

LittleBigPlanet (Scene 2)

https://www.youtube.com/watch?v=pkO35FThrNs

1.19.05-1.24.03

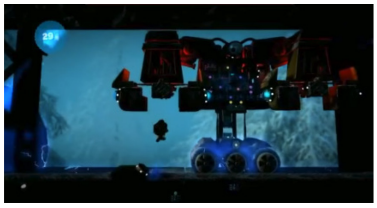
Value	Beginning	Middle	End
Lighting Key	HK	HK, LK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S	C, S	C, S
Area of Phase Space	Large	Small	Small
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2
Setting	Interior	Interior	Interior

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	HC	LK	LK	LK	LK	HC	HC
Shapes	C	C	C, S	C, S	C, S	C, S	C, S

LittleBigPlanet (Scene 3)

https://www.youtube.com/watch?v=pkO35FThrNs

2.23.37-2.27.43

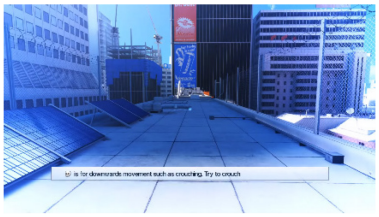

Value	Beginning	Middle	End
Lighting Key	HC	HC	HC
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	C, S	C, S	C, S
Area of Phase Space	Small	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	A2, B2, C2	A2, B2, C2	A2, B2, C2
Setting	Interior	Interior	Interior

Value	Beginning	..	..	..	..	Middle
Area of Phase Space	Small	Large	Large	Large	Large	Large

Mirror's Edge (Scene 1)

https://www.youtube.com/watch?v=Y1LJZQ5iai8

1.38-6.41



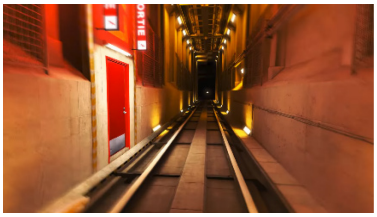
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	First Person	First Person	First Person
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Exterior	Exterior	Exterior

Mirror's Edge (Scene 2)

https://www.youtube.com/watch?v=89ZkjwVr0TA

1.38-19.32





Value	Beginning	Middle	End
Lighting Key	HK	HK, LK, HC	LK, HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	First Person	First Person	First Person
Shapes	S, C	S, C	S, C
Area of Phase Space	Large	Small, Large	Small
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Exterior	Interior, Exterior	Interior

Value	Beginning	..	..	..	Middle	..	..	..	End
Lighting Key	HK	LK	HK	HK	LK	HK, HC	HK	LK, HC	LK, HK
Area of Phase Space	Large	Small	Small	Large	Small	Small	Small	Small	Small
Setting	Ext.	Int.	Int.	Ext.	Int.	Int.	Int.	Int.	Int.

Mirror's Edge (Scene 3)

https://www.youtube.com/watch?v=1P5ntazitmE

2.14-23.05

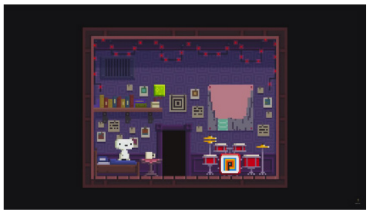
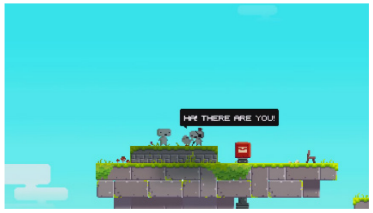
Value	Beginning	Middle	End
Lighting Key	LK, HC	HK, LK, HC	LK, HC
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	First Person	First Person	First Person
Shapes	S, C	S, T	S
Area of Phase Space	Small	Small, Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B2	B2	B2
Setting	Interior	Exterior, Interior	Exterior

Value	Beginning	..	..	..	Middle	..	..	..	End
Lighting Key	LK, HC	HK, HC	HK	HK, LK	LK, HC	LK, HK, HC	HK	HK, HC	LK, HC
Area of Phase Space	Small	Large	Large	Large	Small	Large	Large	Large	Large
Setting	Int.	Int.	Int.	Int.	Int.	Ext.	Int.	Int.	Ext.

Fez (Scene 1)

https://www.youtube.com/watch?v=yq5WuOF9Kso

0.13-3.38

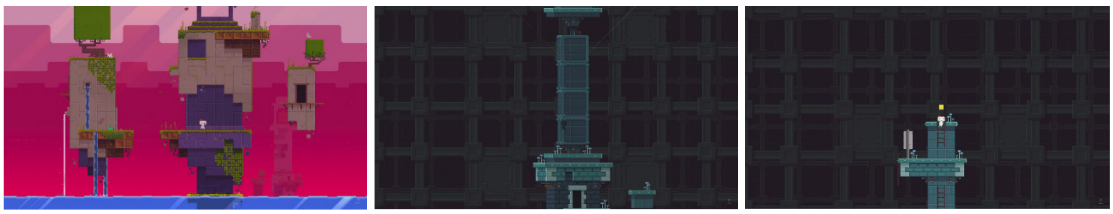
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S	S	S
Area of Phase Space	Small	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3	B2, B3	B3
Setting	Interior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Small	Large	Large	Large	Large	Large	Large
Horizon of Intent	A3, B3	B2, B3	B2, B3	B2, B3	B3	B3	B3
Setting	Interior	Exterior	Exterior	Exterior	Exterior	Exterior	Exterior

Fez (Scene 2)

https://www.youtube.com/watch?v=T5B2eT3lfC8

0.04-5.58



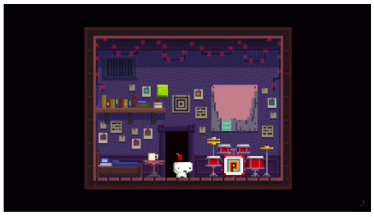
Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S	S	S
Area of Phase Space	Large	Small, Large	Small
Depth of Field	N/A	N/A	N/A
Horizon of Intent	B2	B2	B2
Setting	Exterior	Interior, Exterior	Interior

Value	Beginning	..	..	Middle	..	..	End
Area of Phase Space	Large	Small	Large	Small	Small	Large	Small
Setting	Exterior	Interior	Exterior	Interior, Exterior	Interior	Exterior	Interior

Fez (Scene 3)

https://www.youtube.com/watch?v=0nKQFkUTaL0

5.18-5.50



Value	Beginning	Middle	End
Lighting Key	HK	HK	HK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Side Scrolling	Side Scrolling	Side Scrolling
Shapes	S	S	S
Area of Phase Space	Small	Large	Large
Depth of Field	N/A	N/A	N/A
Horizon of Intent	A3, B3	B2	B2
Setting	Interior	Exterior	Exterior

Value	Beginning	..	Middle	..
Area of Phase Space	Small	Large	Large	Large
Horizon of Intent	A3, B3	B2	B2	B2
Setting	Interior	Exterior	Exterior	Exterior

Super Mario 3D World (Scene 1)

https://www.youtube.com/watch?v=xCk0T-0Z3cU

2.45-10.23



Value	Beginning	Middle	End
Lighting Key	HK, LK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person, Side Scrolling	Third Person
Shapes	C, S	C, S	C, S
Area of Phase Space	Large	Large, Small	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Camera Perspective	Third Person	Third Person	Third Person	Third Person	Third Person	Third Person, Side Scrolling	Third Person
Area of Phase Space	Large	Large	Small	Small	Large	Small	Large

Super Mario 3D World (Scene 2)

https://www.youtube.com/watch?v=WSXOV18U7vs

1.08.38-1.11.31



Value	Beginning	Middle	End
Lighting Key	LK	LK, HK	LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C, S	C	C, S
Area of Phase Space	Large	Large	Large
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B1, B2, B3	B1, B2, B3	B1, B2, B3
Setting	Exterior	Exterior	Exterior

Value	Beginning	..	..	Middle	..	..	End
Lighting Key	LK	LK, HK	LK, HK	LK, HK	LK, HK	LK, HK	LK
Shapes	C, S	C	C	C	C	C	C, S

Super Mario 3D World (Scene 3)

https://www.youtube.com/watch?v=S9_WAwdklt8

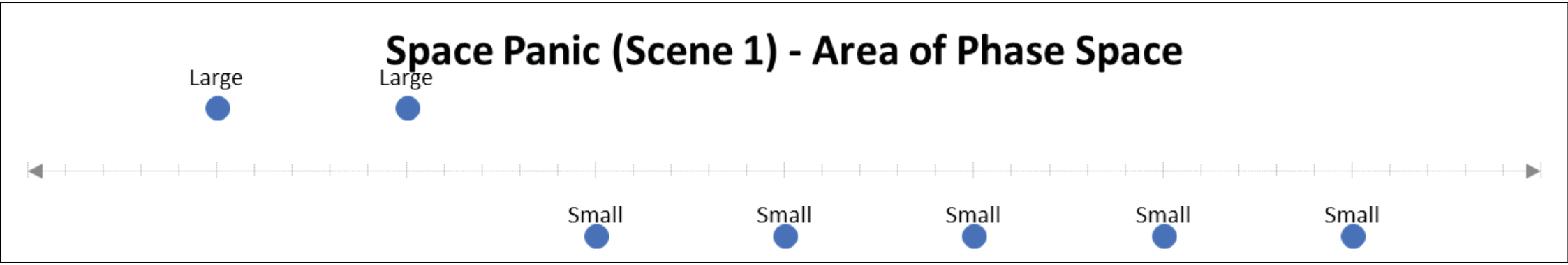
1.24.26-1.35.39

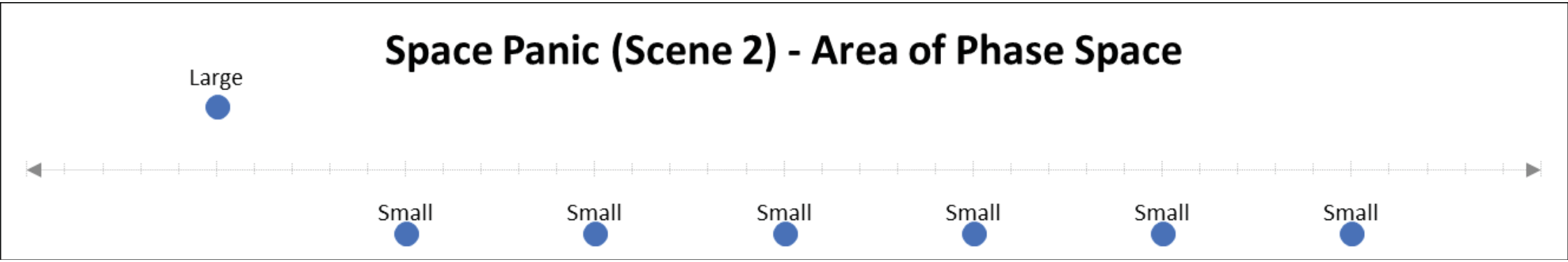


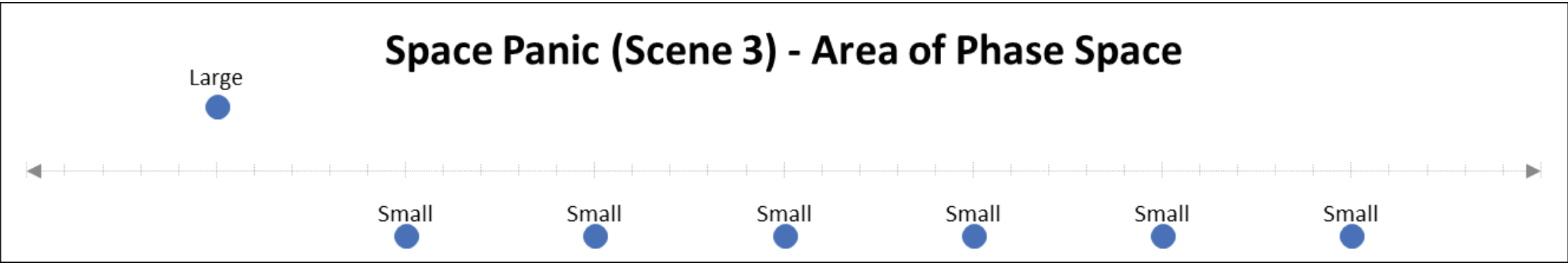
Value	Beginning	Middle	End
Lighting Key	HK	HK, LK	HK, LK
Camera Proxemics	Long Shot	Long Shot	Long Shot
Camera Perspective	Third Person	Third Person	Third Person
Shapes	C	C, S	C, S
Area of Phase Space	Large	Small	Small
Depth of Field	Applicable	Applicable	Applicable
Horizon of Intent	B1, B2, B3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3
Setting	Exterior	Exterior	Exterior

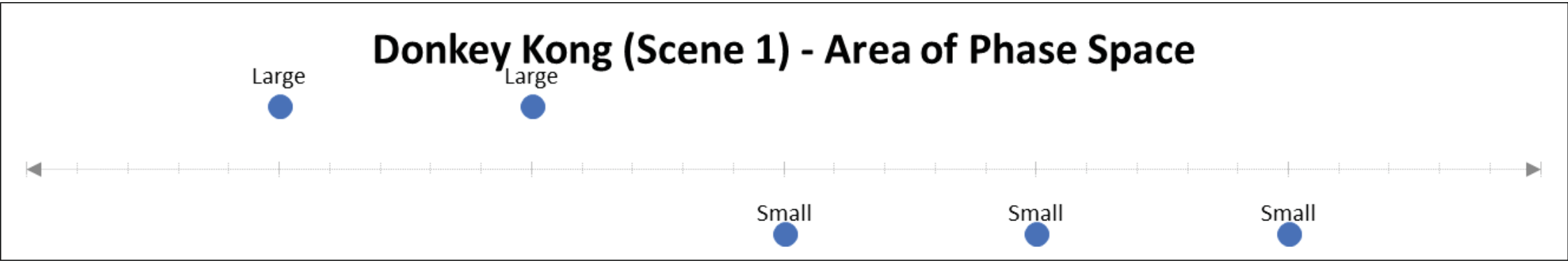
Value	Beginning	..	..	Middle	..	..	End
Lighting Key	HK	HK	HK	HK, LK	HK, LK	HK, LK	HK, LK
Shapes	C	C, S	C, S	C, S	C, S	C, S	C, S
Area of Phase Space	Large	Small	Small	Small	Small	Small	Small
Horizon of Intent	B1, B2, B3	B2	B2	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3	A1, B1, C1, A2, B2, C2, A3, B3, C3

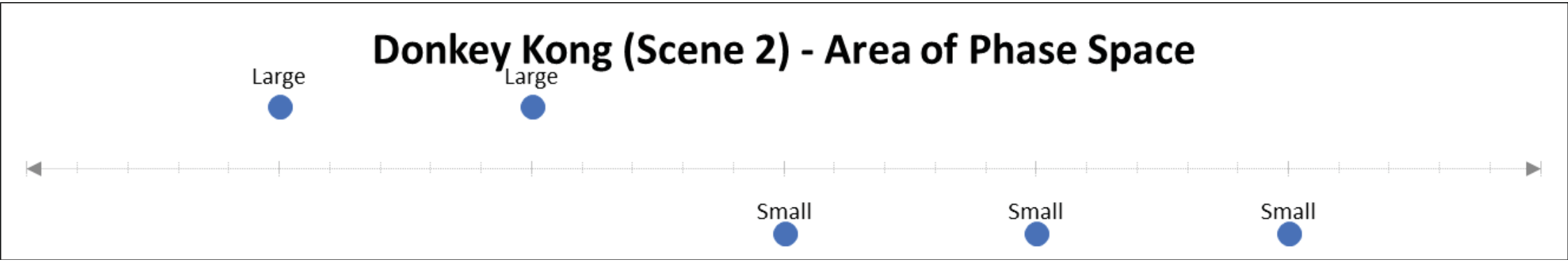
Analysis Graphics

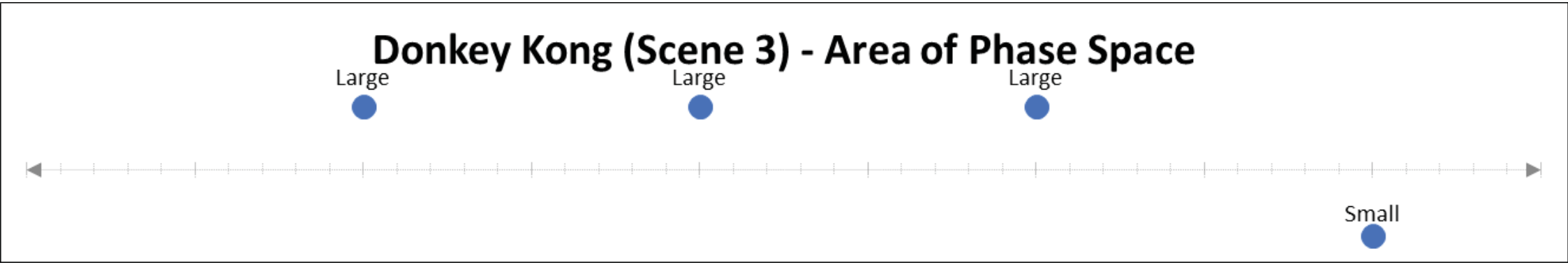

Space Panic (Scene 1) - Area of Phase Space
Large
Large
Small
Small
Small
Small
Small

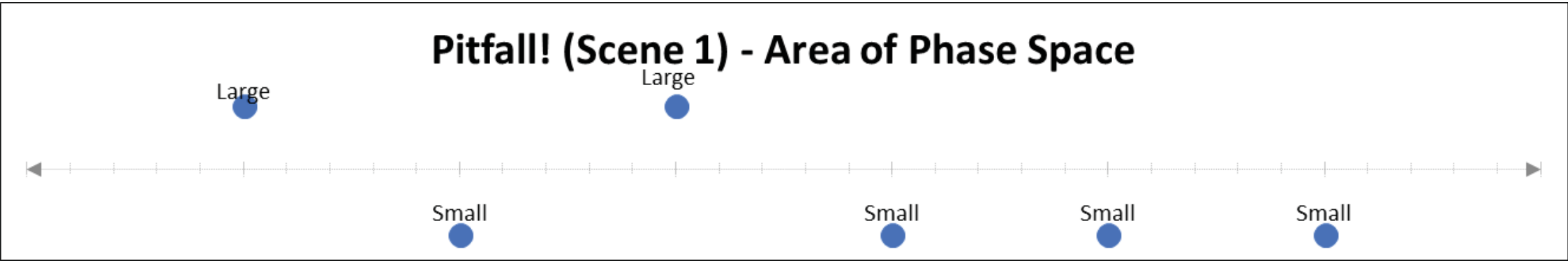

Space Panic (Scene 2) - Area of Phase Space
Large
Small
Small
Small
Small
Small
Small

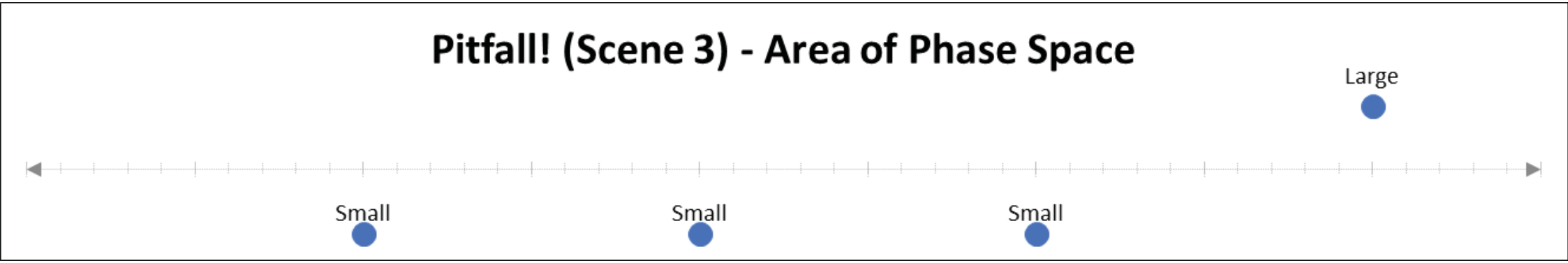

Space Panic (Scene 3) - Area of Phase Space
Large
Small
Small
Small
Small
Small
Small

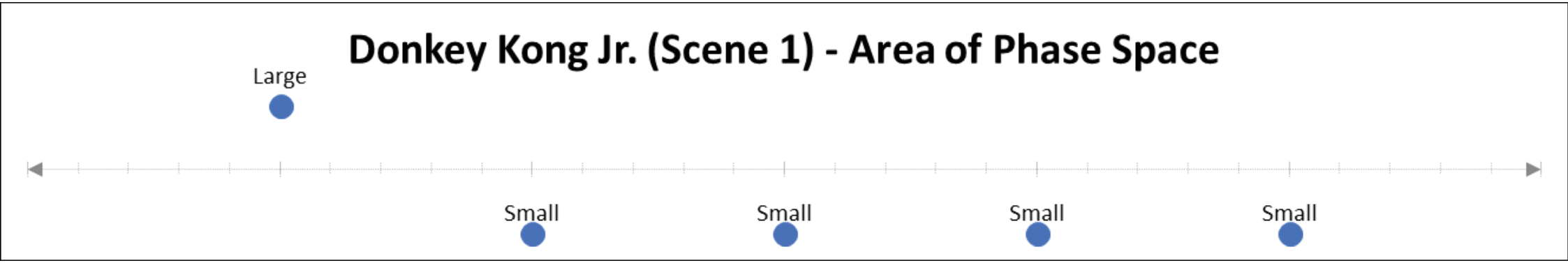

Donkey Kong (Scene 1) - Area of Phase Space
Large
Large
Small
Small
Small

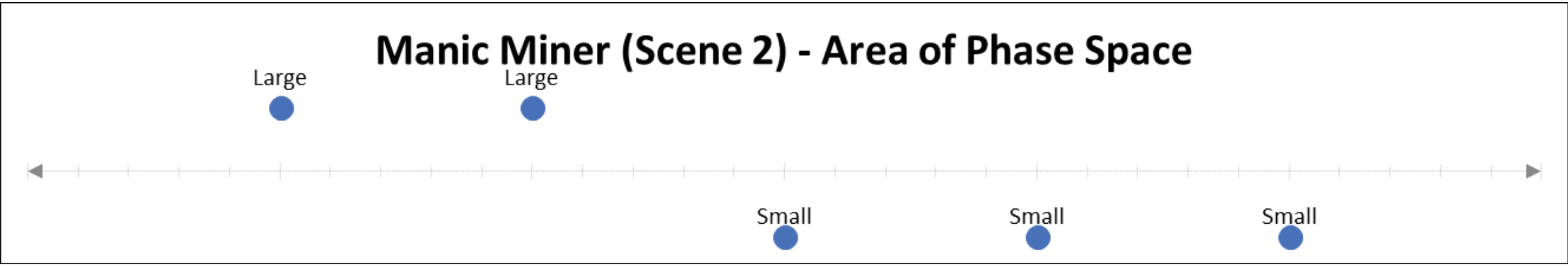

Donkey Kong (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small

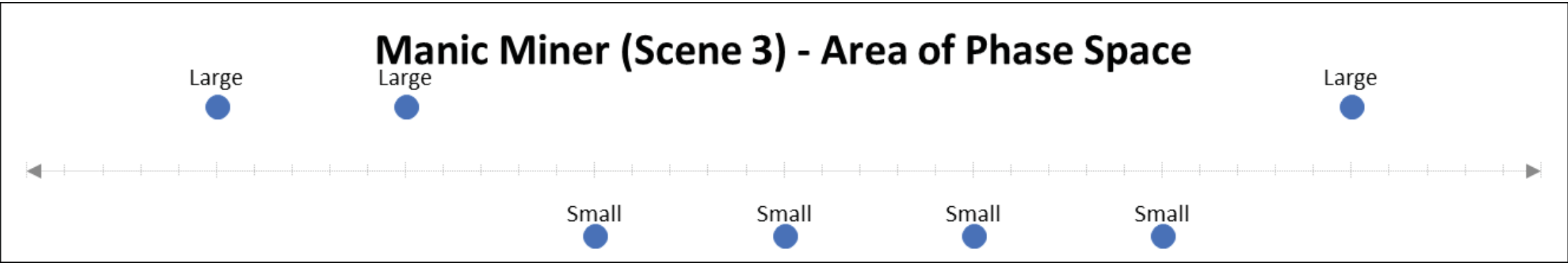

Donkey Kong (Scene 3) - Area of Phase Space
Large
Large
Large
Small

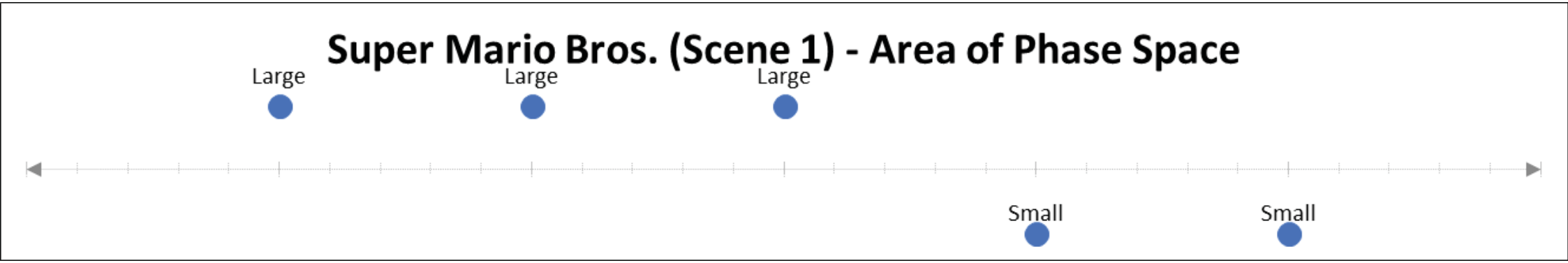

Pitfall! (Scene 1) - Area of Phase Space
Large
Large
Small
Small
Small
Small

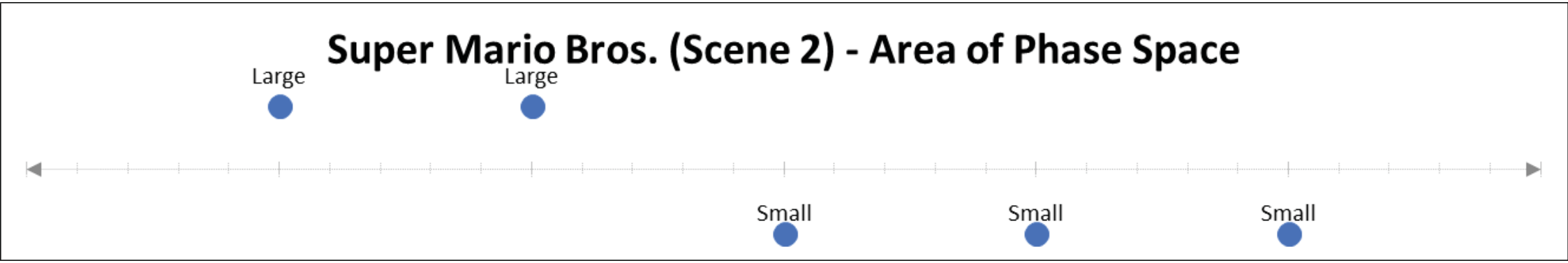

Pitfall! (Scene 3) - Area of Phase Space
Large
Small
Small
Small

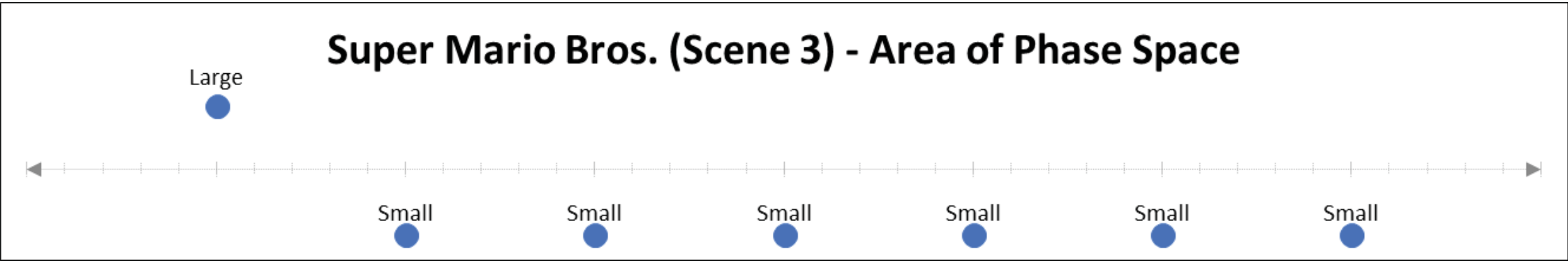

Donkey Kong Jr. (Scene 1) - Area of Phase Space
Large
Small
Small
Small
Small

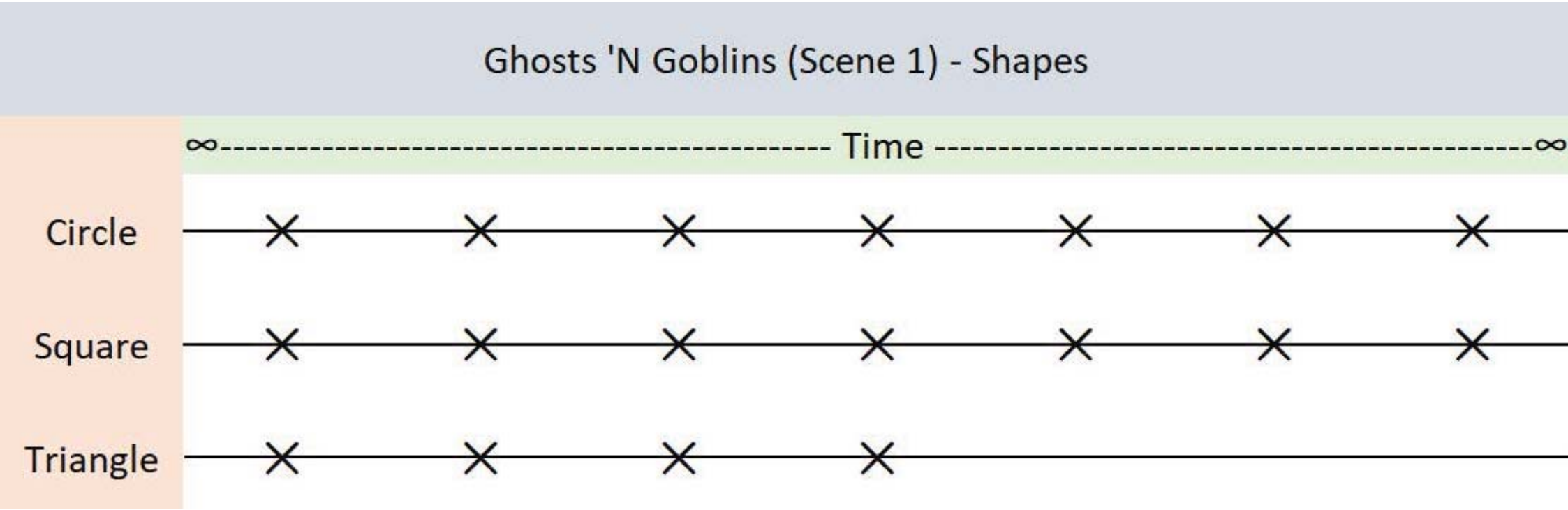

Manic Miner (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small

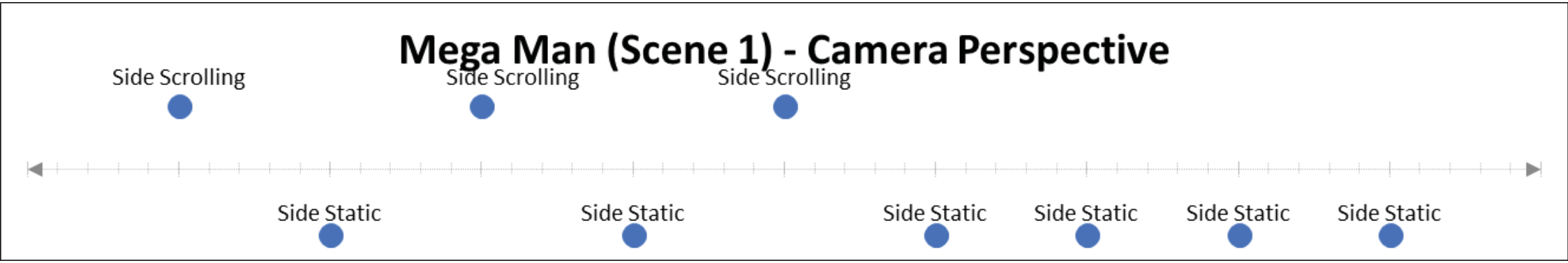

Manic Miner (Scene 3) - Area of Phase Space
Large
Large
Large
Small
Small
Small
Small

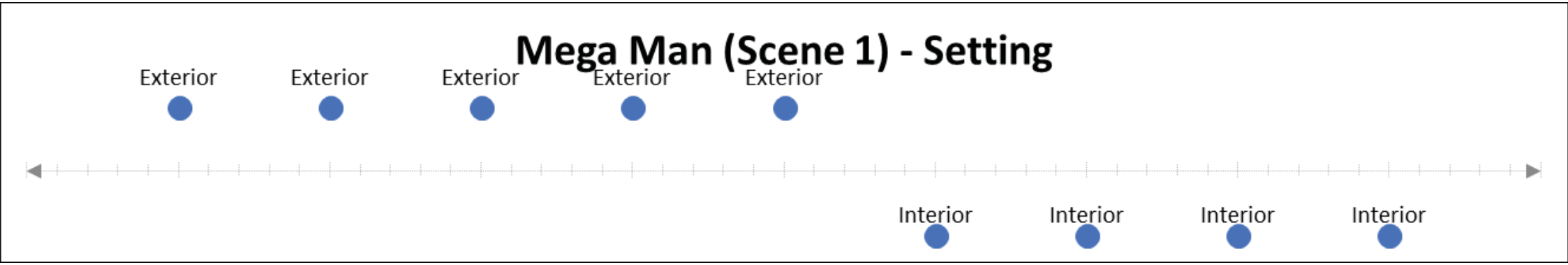

Super Mario Bros. (Scene 1) - Area of Phase Space
Large
Large
Large
Small
Small

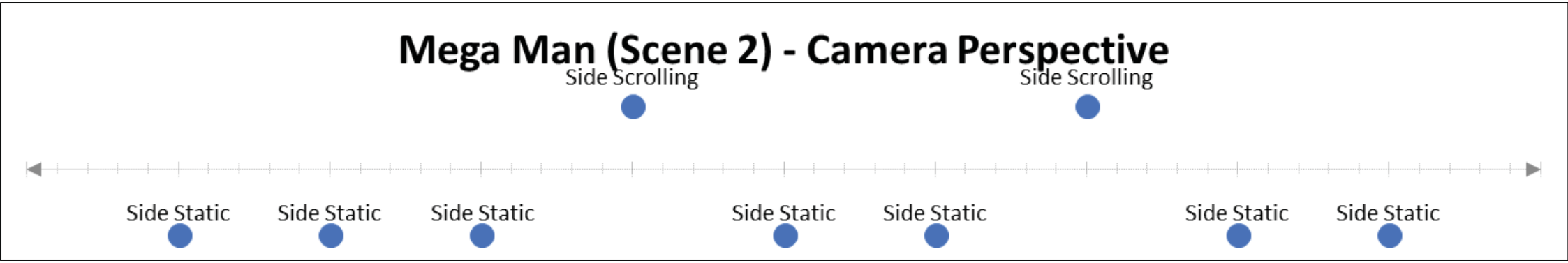

Super Mario Bros. (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small

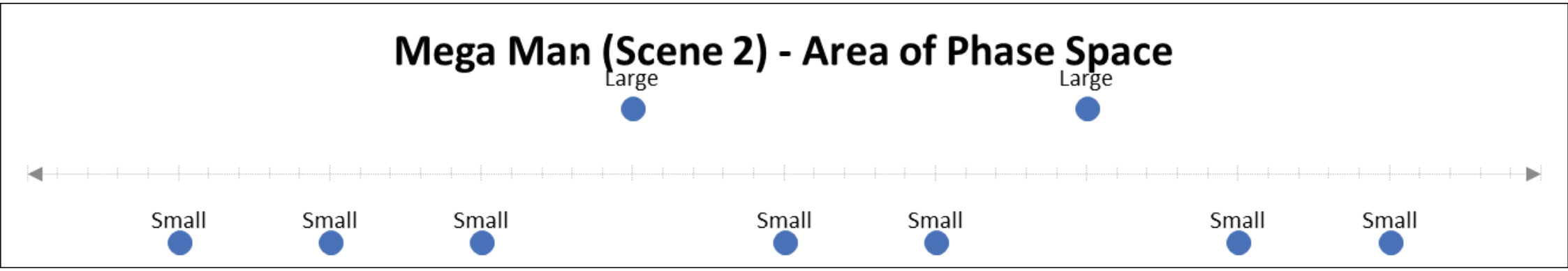

Super Mario Bros. (Scene 3) - Area of Phase Space
Large
Small
Small
Small
Small
Small
Small

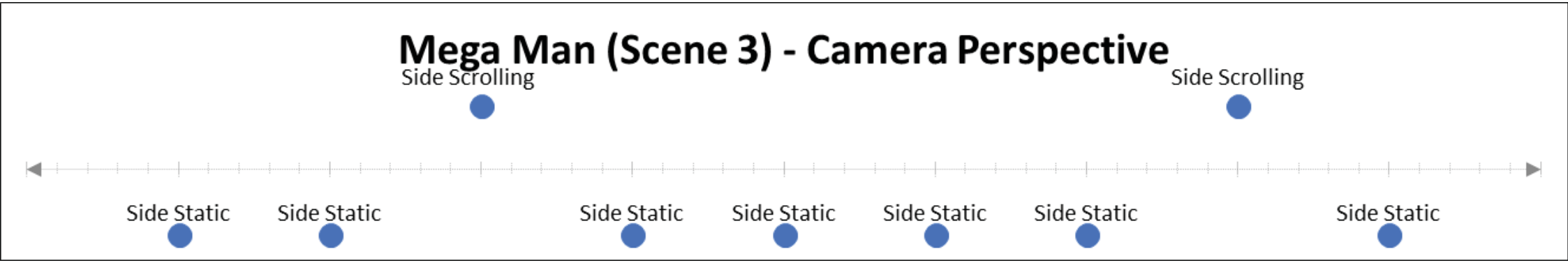

Ghosts 'N Goblins (Scene 1) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

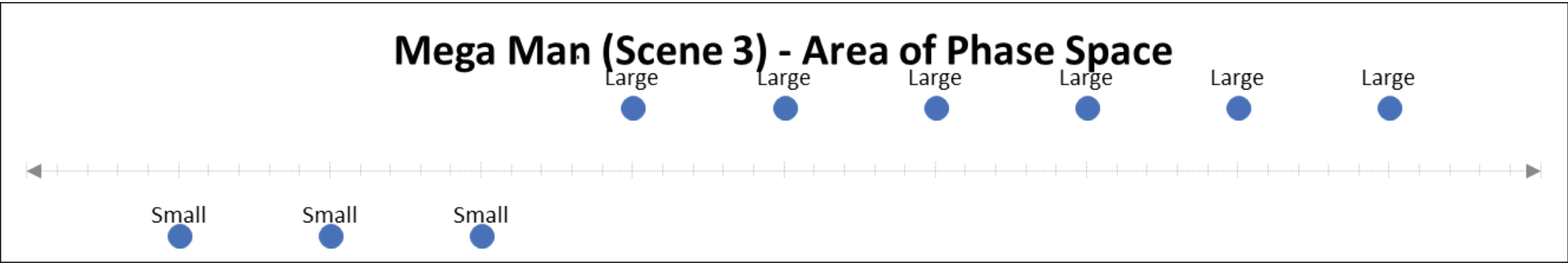

Mega Man (Scene 1) - Camera Perspective
Side Scrolling
Side Scrolling
Side Scrolling
Side Static
Side Static
Side Static
Side Static
Side Static
Side Static

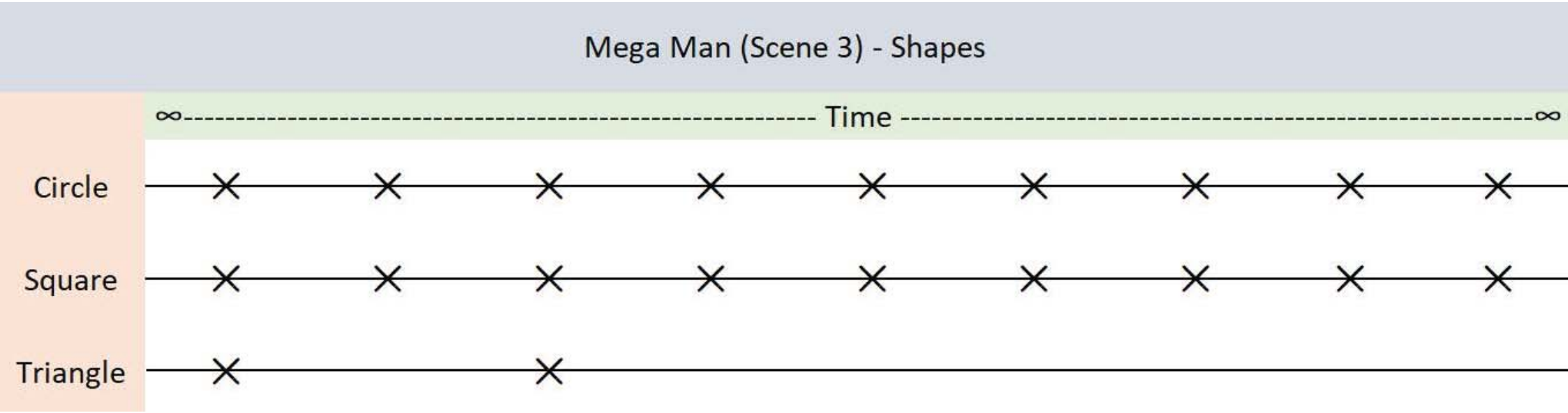

Mega Man (Scene 1) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
Interior
Interior
Interior
Interior

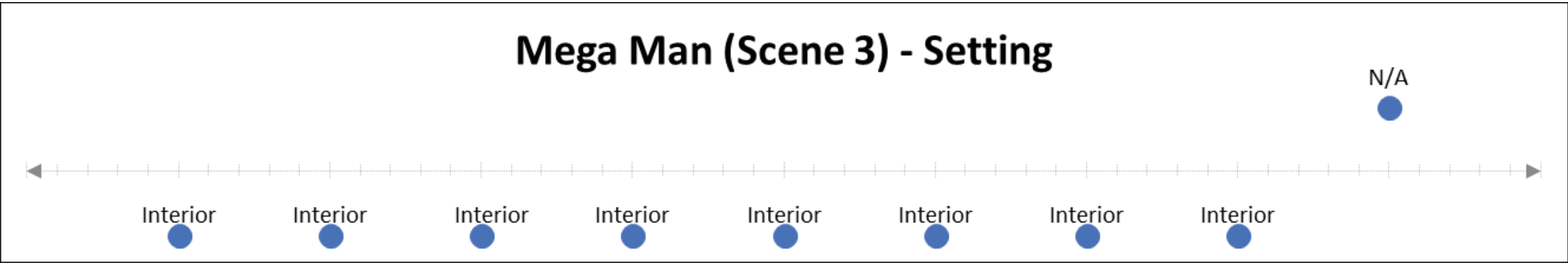

Mega Man (Scene 2) - Camera Perspective
Side Scrolling
Side Scrolling
Side Static
Side Static
Side Static
Side Static
Side Static
Side Static
Side Static


Mega Man (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small
Small
Small
Small
Small

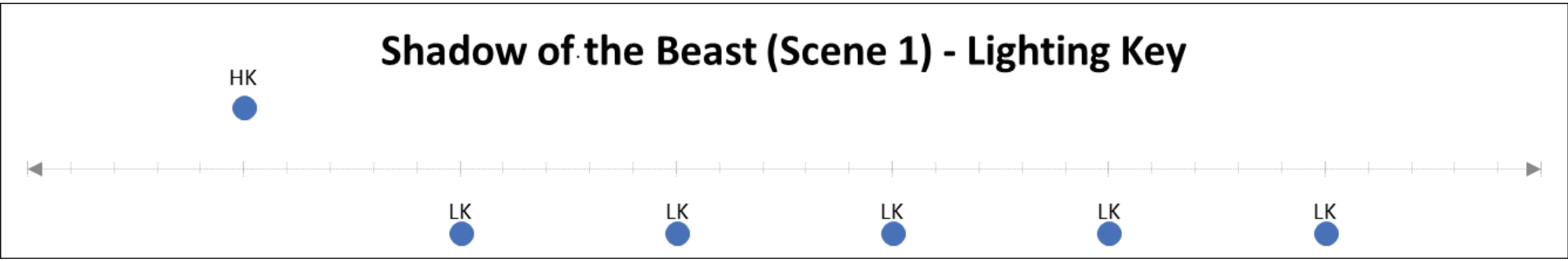

Mega Man (Scene 3) - Camera Perspective
Side Scrolling
Side Scrolling
Side Static
Side Static
Side Static
Side Static
Side Static
Side Static
Side Static

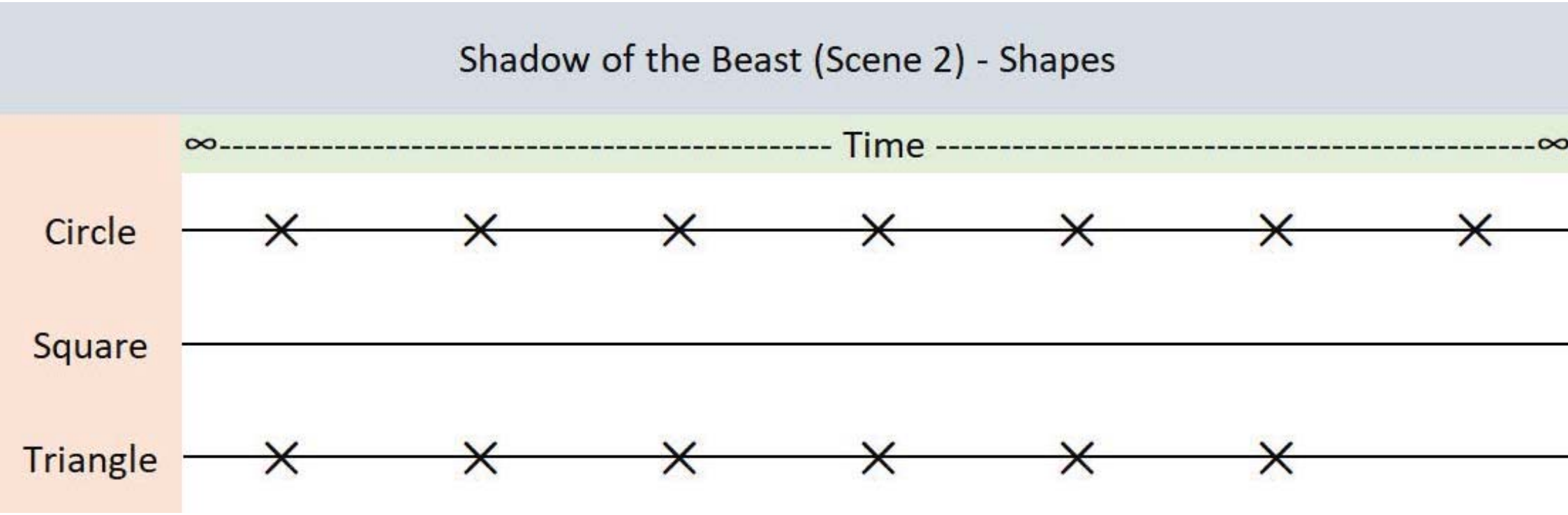

Mega Man (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Large
Large
Small
Small
Small

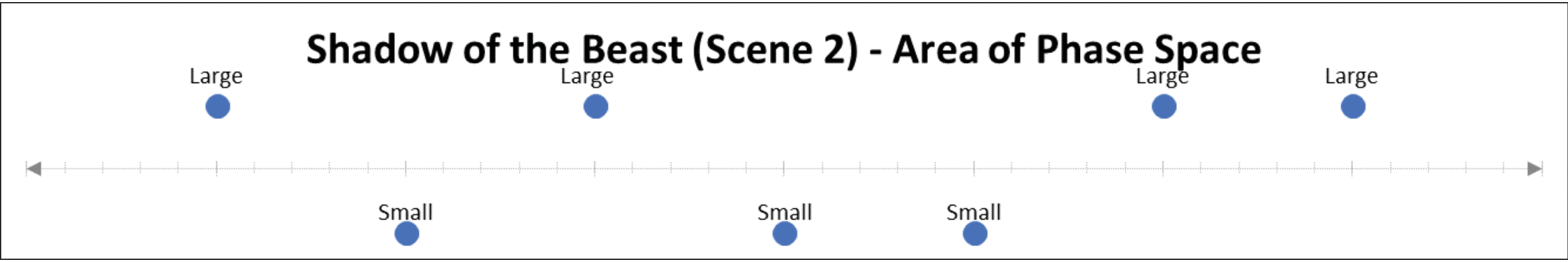

Mega Man (Scene 3) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

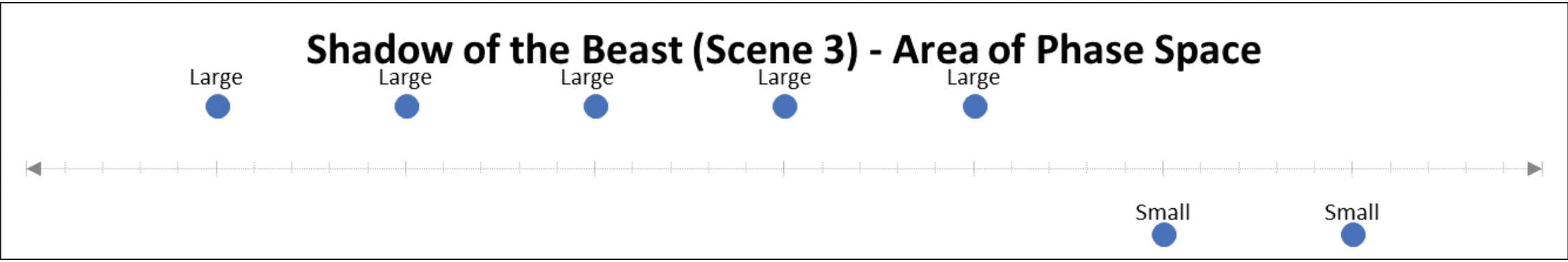

Mega Man (Scene 3) - Setting
N/A
Interior
Interior
Interior
Interior
Interior
Interior
Interior
Interior

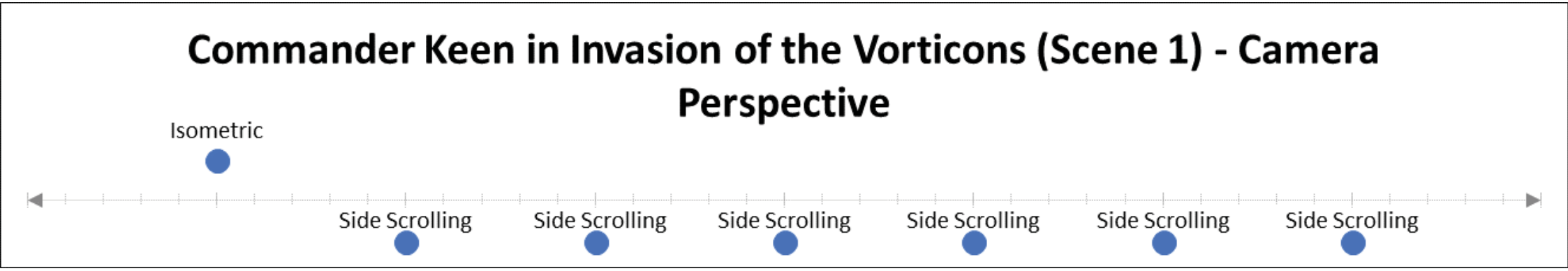
Shadow of the Beast (Scene 1) - Lighting Key

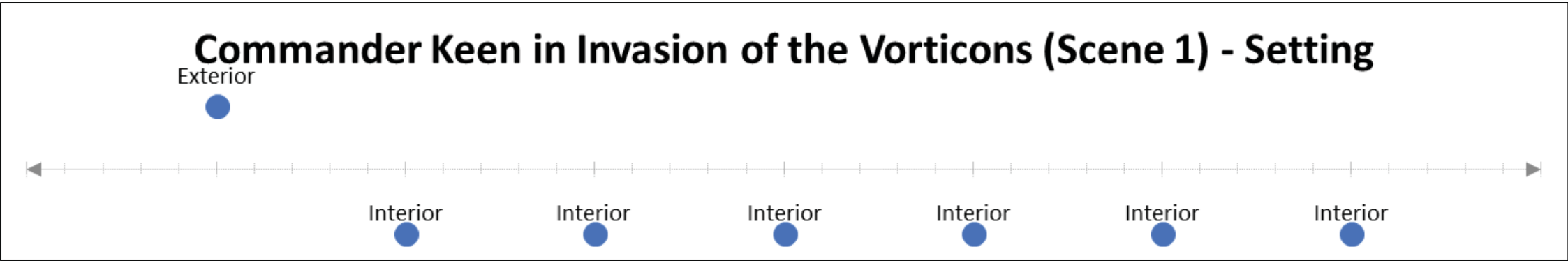



Shadow of the Beast (Scene 2) - Shapes
∞ Time ∞
Circle
Square
Triangle


Shadow of the Beast (Scene 2) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small

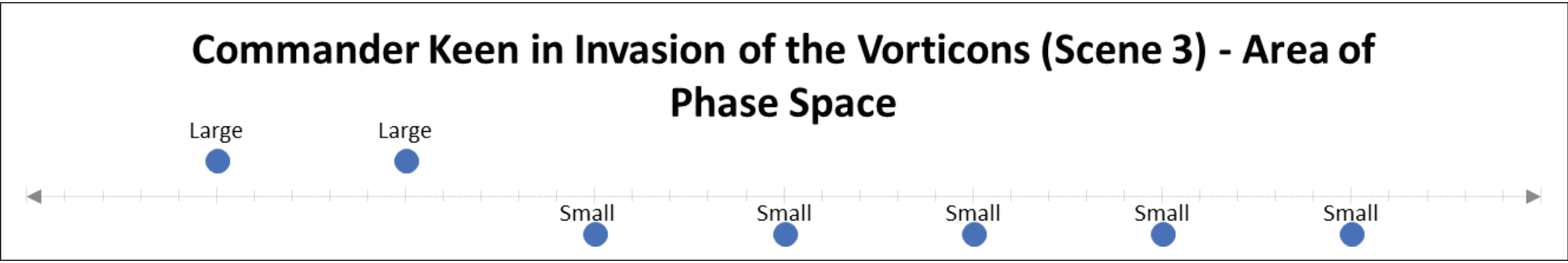

Shadow of the Beast (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Large
Small
Small

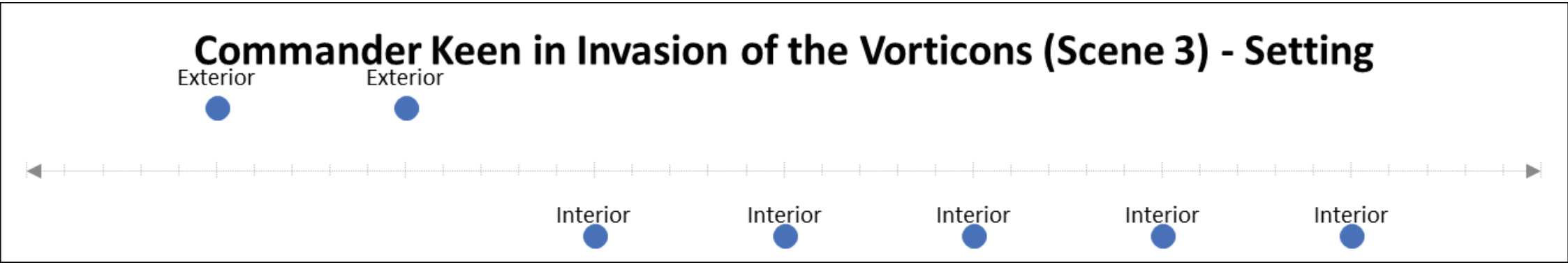

Commander Keen in Invasion of the Vorticons (Scene 1) - Camera Perspective
Isometric
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling

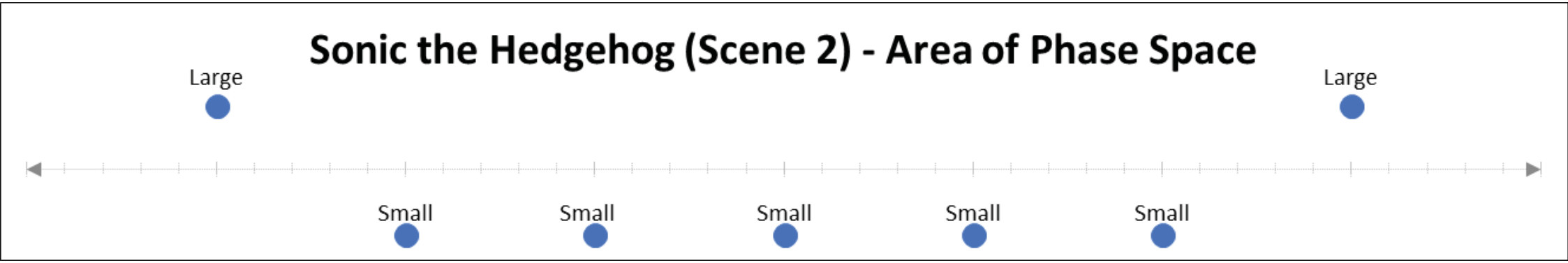

Commander Keen in Invasion of the Vorticons (Scene 1) - Setting
Exterior
Interior
Interior
Interior
Interior
Interior
Interior

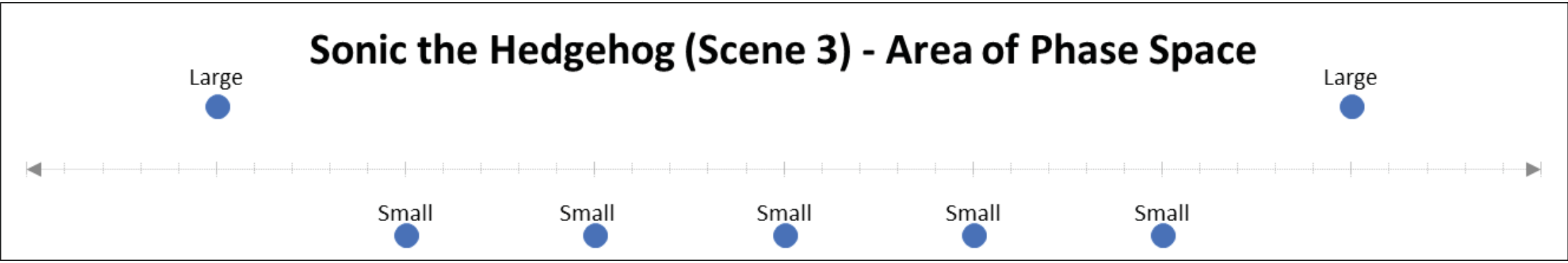

Commander Keen in Invasion of the Vorticons (Scene 2) - Camera Perspective
Isometric
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling

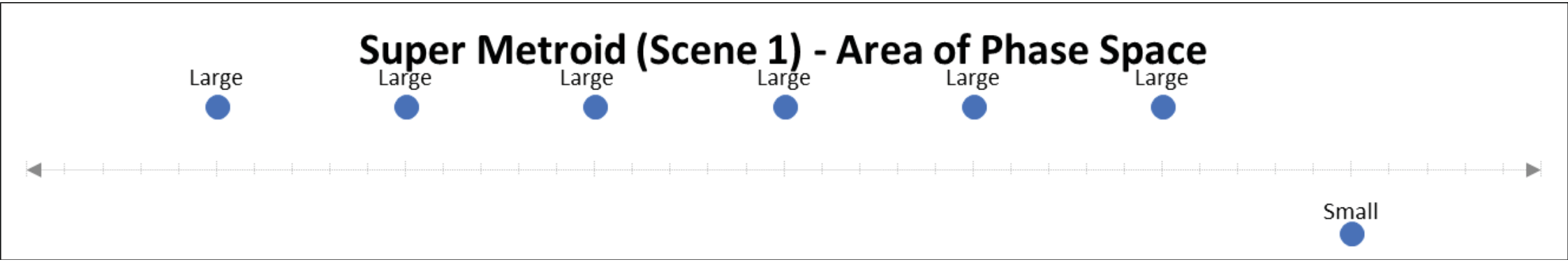

Commander Keen in Invasion of the Vorticons (Scene 3) - Camera Perspective
Isometric
Isometric
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling

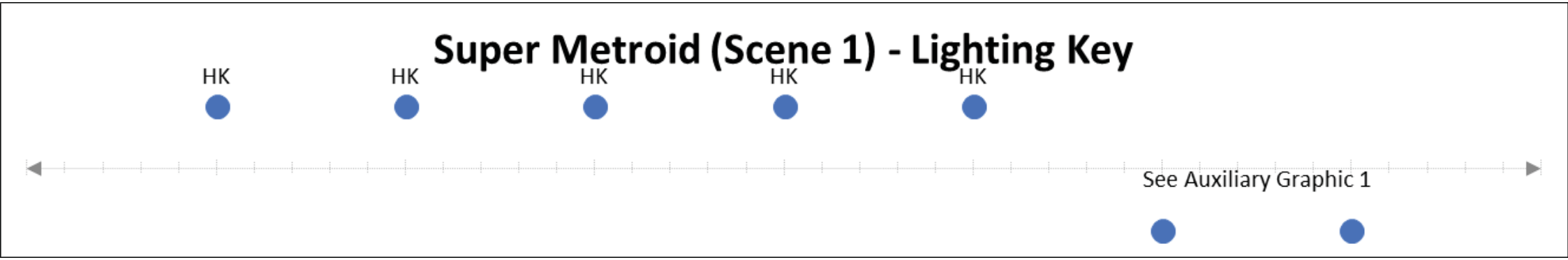

Commander Keen in Invasion of the Vorticons (Scene 3) - Area of Phase Space
Large
Large
Small
Small
Small
Small
Small

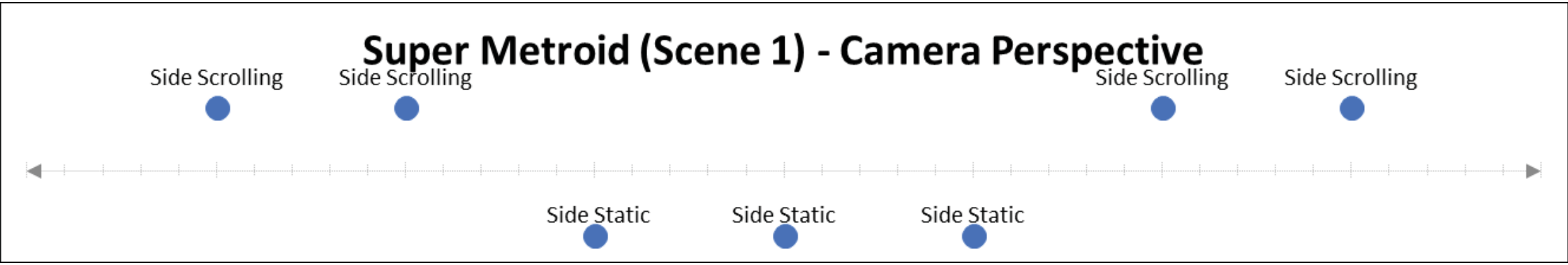

Commander Keen in Invasion of the Vorticons (Scene 3) - Setting
Exterior
Exterior
Interior
Interior
Interior
Interior
Interior

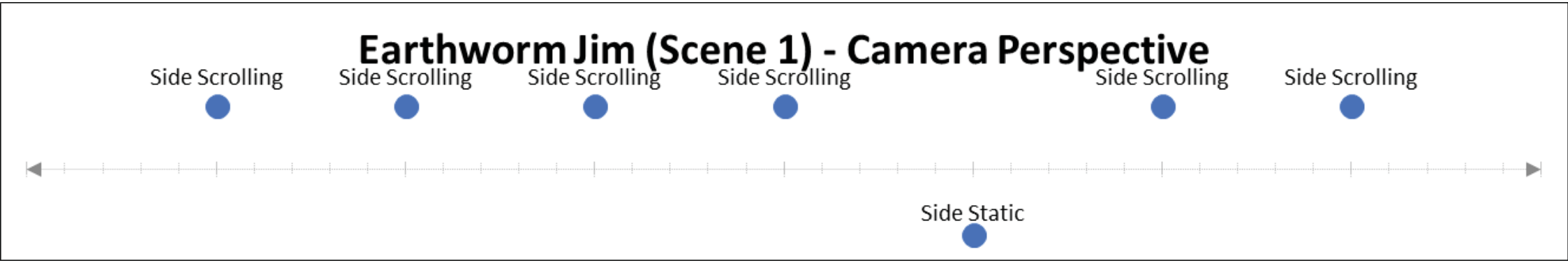

Sonic the Hedgehog (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small
Small
Small

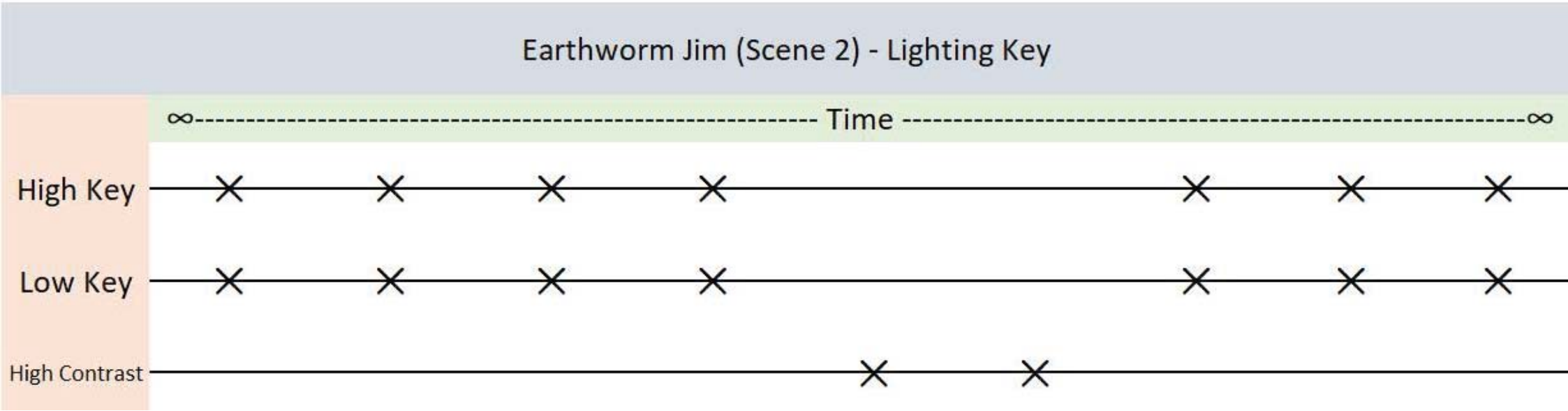

Sonic the Hedgehog (Scene 3) - Area of Phase Space
Large
Large
Small
Small
Small
Small
Small

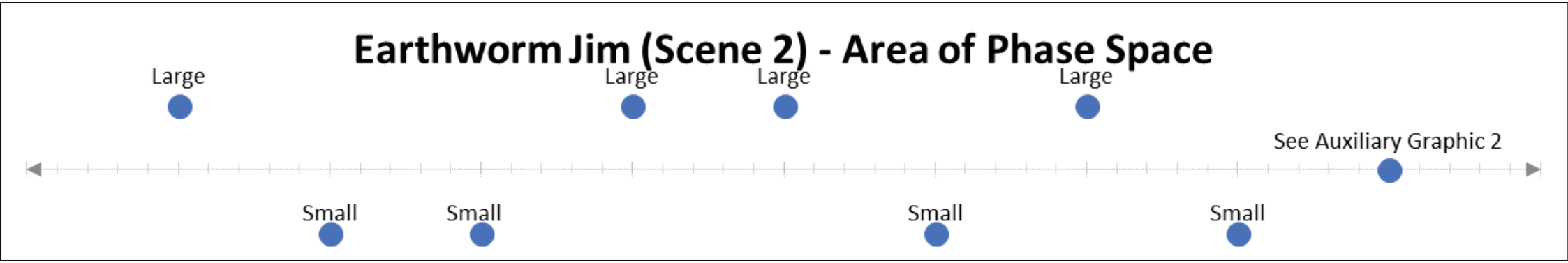

Super Metroid (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Large
Large
Small

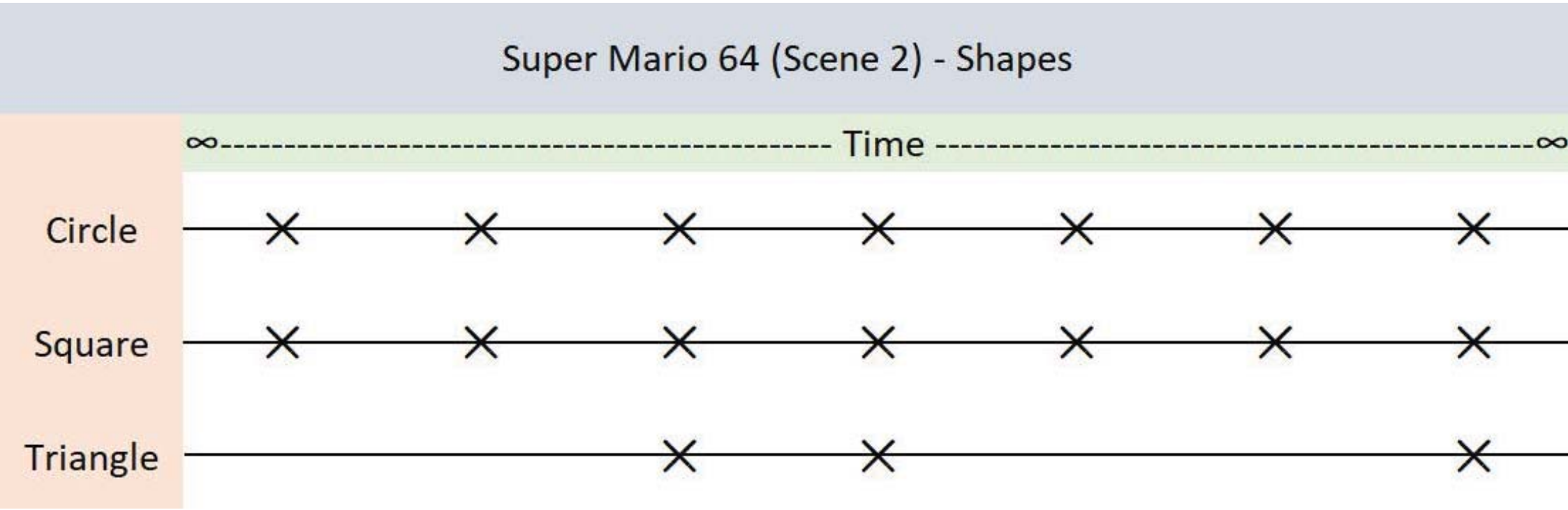

Super Metroid (Scene 1) - Lighting Key
HK
HK
HK
HK
HK
See Auxiliary Graphic 1

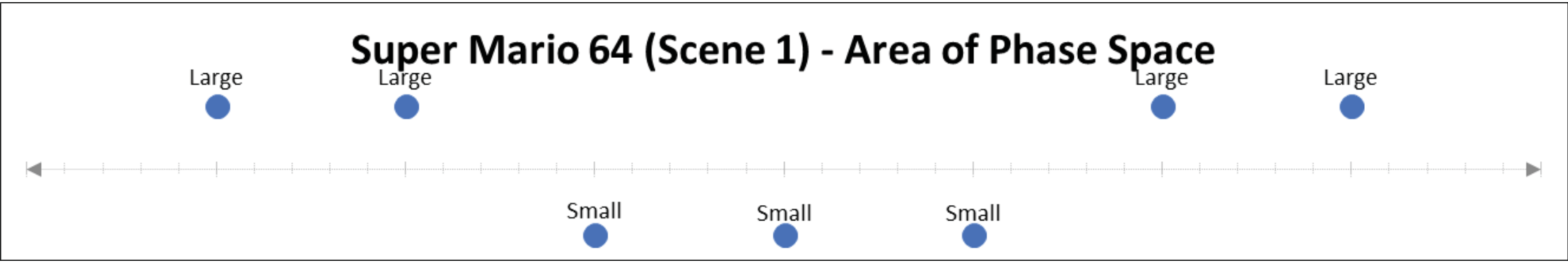

Super Metroid (Scene 1) - Camera Perspective
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Static
Side Static
Side Static

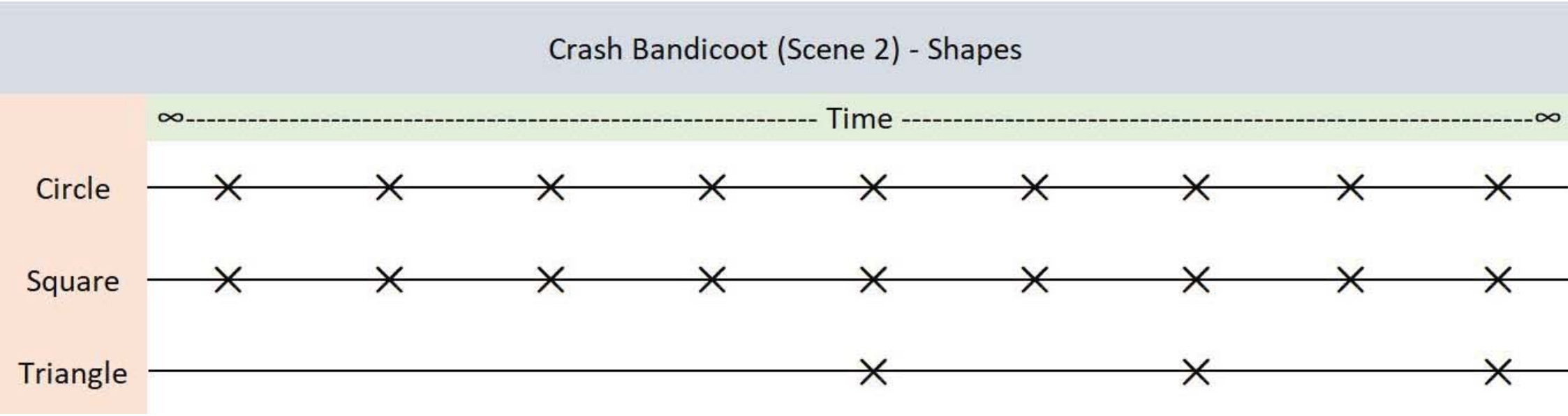

Earthworm Jim (Scene 1) - Camera Perspective
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Scrolling
Side Static

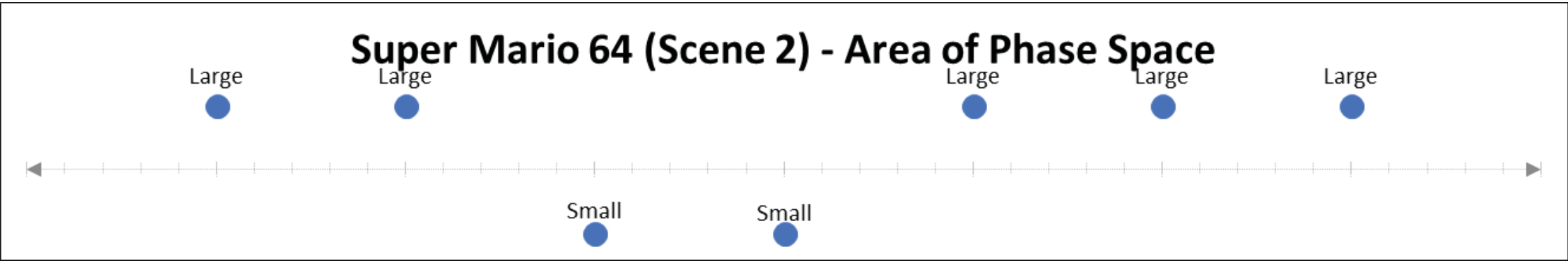

Earthworm Jim (Scene 2) - Lighting Key
∞---------- Time ----------∞
High Key
Low Key
High Contrast

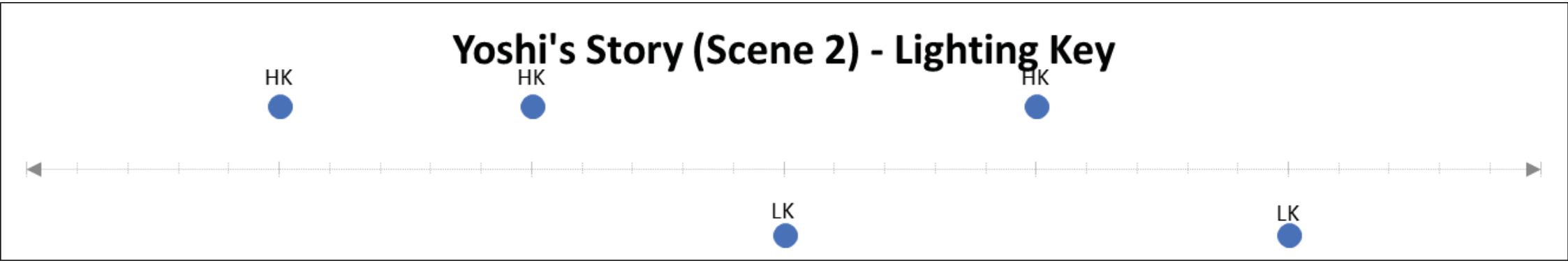

Earthworm Jim (Scene 2) - Area of Phase Space
Large
Large
Large
Large
See Auxiliary Graphic 2
Small
Small
Small
Small

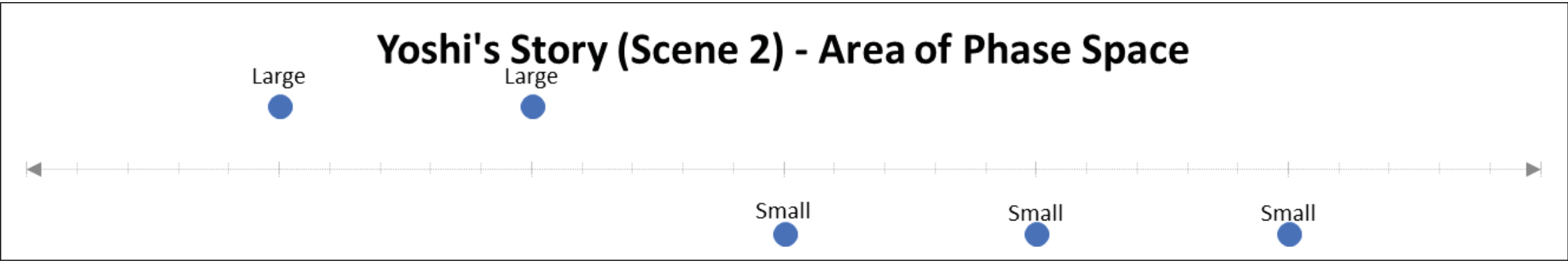

Super Mario 64 (Scene 2) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

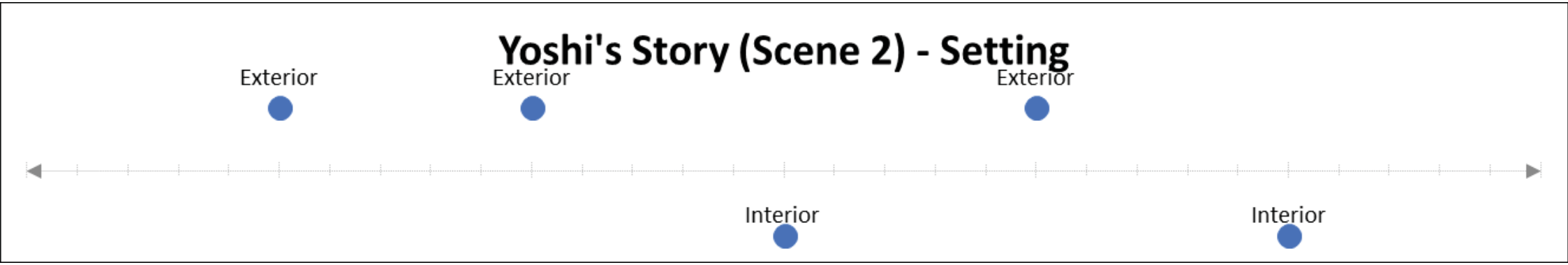

Super Mario 64 (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small

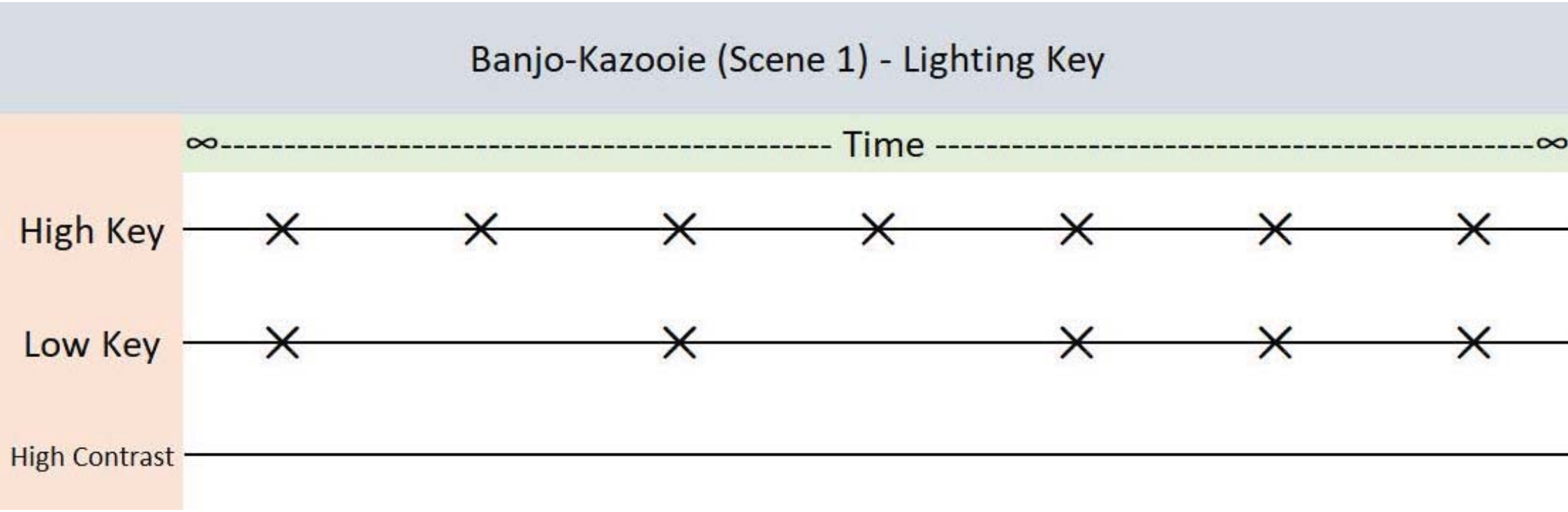

Crash Bandicoot (Scene 2) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

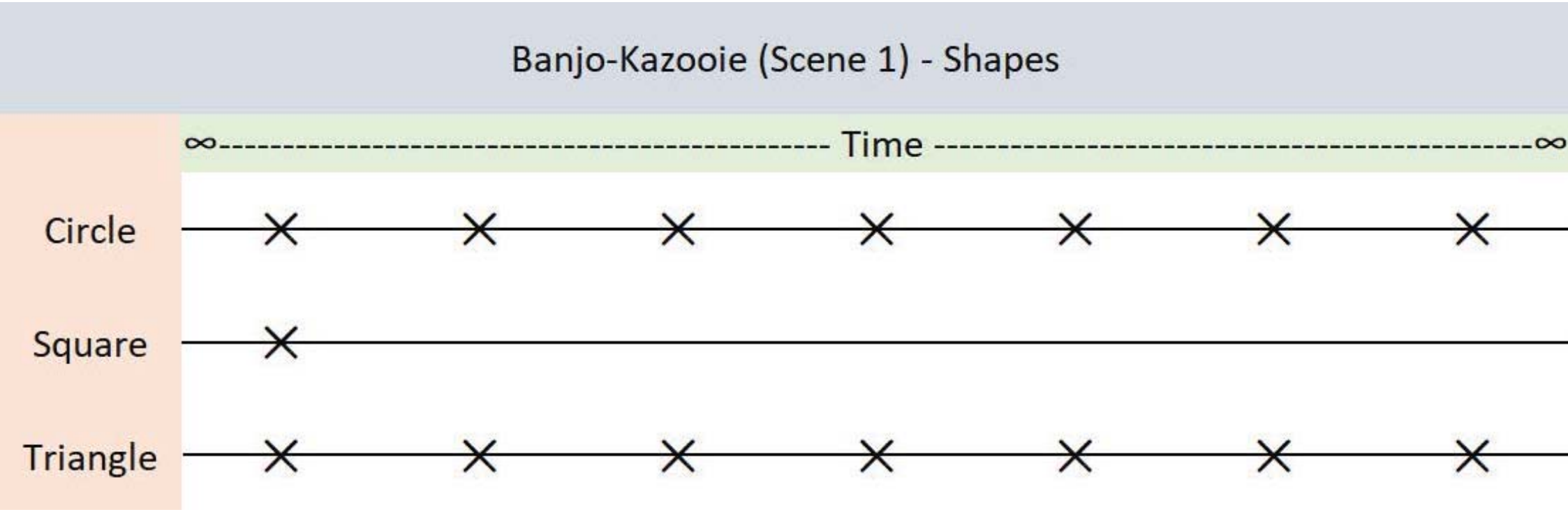

Super Mario 64 (Scene 2) - Area of Phase Space
Large
Large
Large
Large
Large
Small
Small

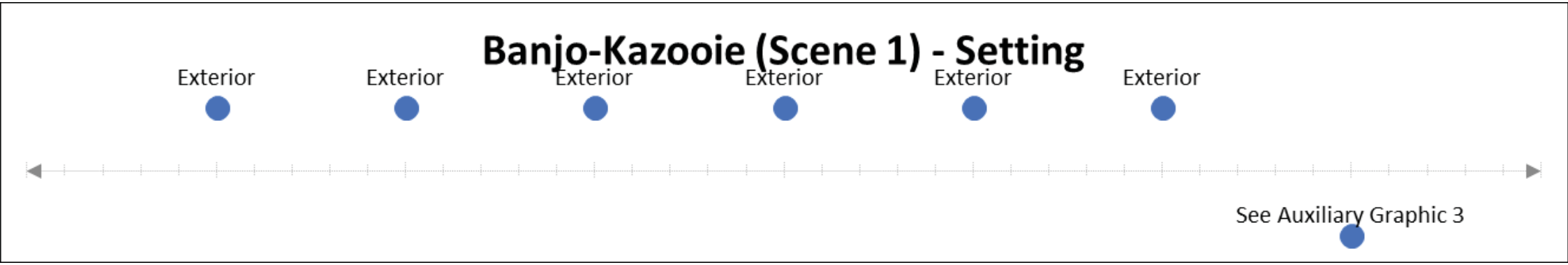

Yoshi's Story (Scene 2) - Lighting Key
HK
HK
HK
LK
LK


Yoshi's Story (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small

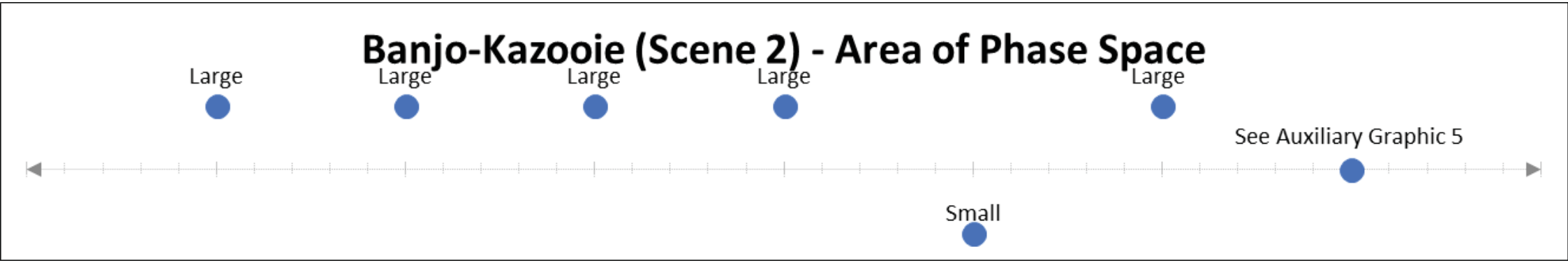

Yoshi's Story (Scene 2) - Setting
Exterior
Exterior
Exterior
Interior
Interior

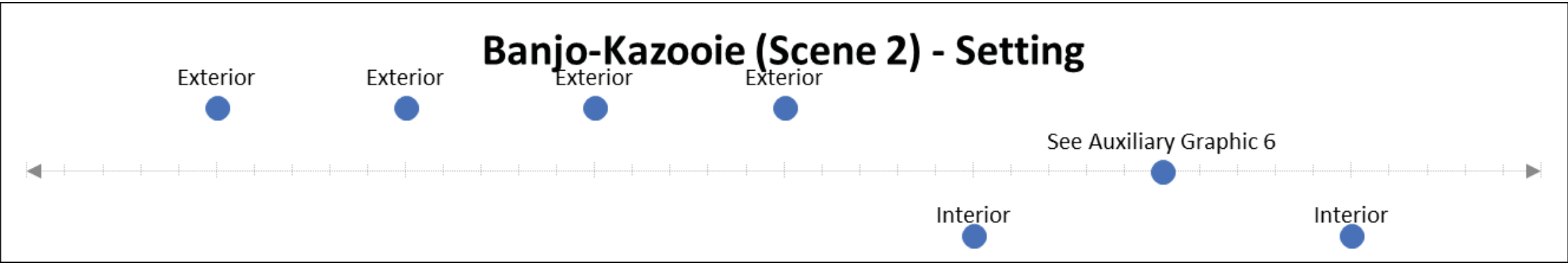

Banjo-Kazooie (Scene 1) - Lighting Key
∞---------- Time ----------∞
High Key
Low Key
High Contrast

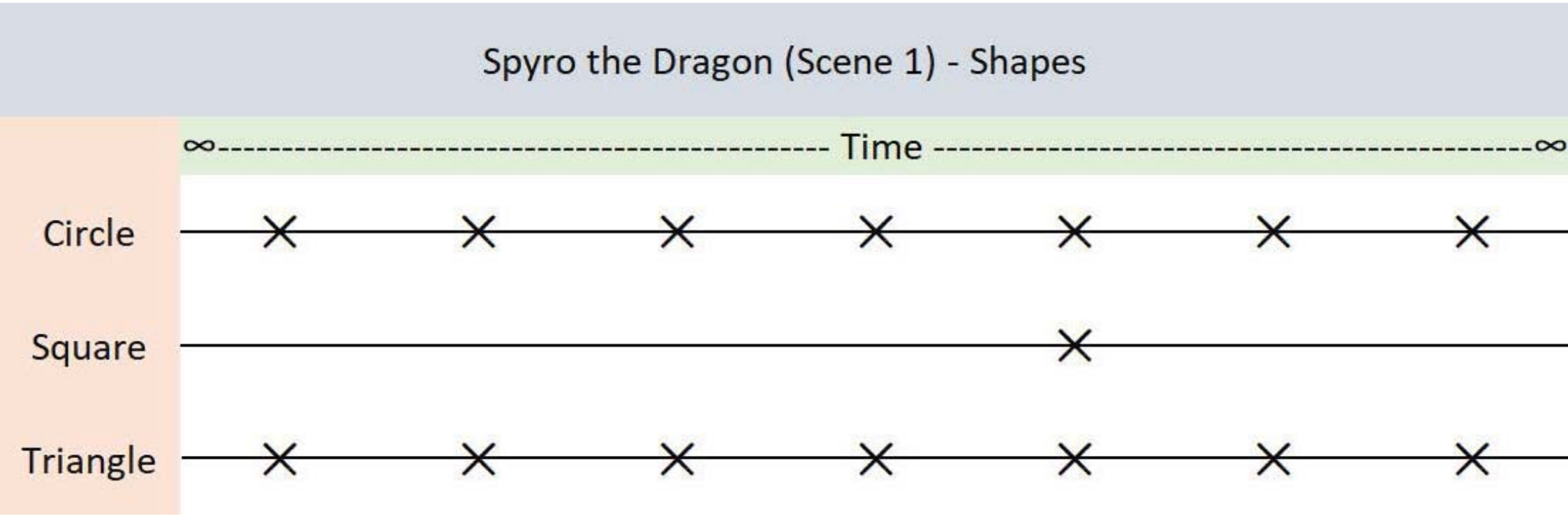

Banjo-Kazooie (Scene 1) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle


Banjo-Kazooie (Scene 1) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
Exterior
See Auxiliary Graphic 3

Banjo-Kazooie (Scene 2) - Lighting Key


Banjo-Kazooie (Scene 2) - Area of Phase Space
Large
Large
Large
Large
Large
See Auxiliary Graphic 5
Small

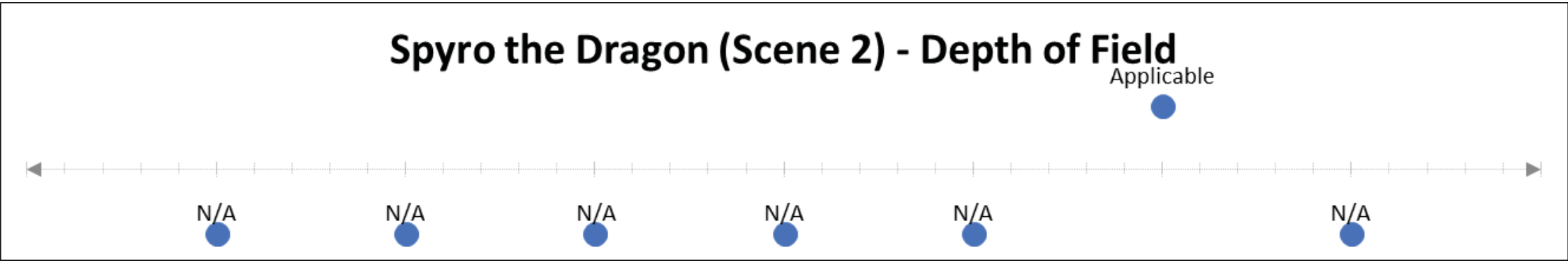

Banjo-Kazooie (Scene 2) - Setting
Exterior
Exterior
Exterior
Exterior
See Auxiliary Graphic 6
Interior
Interior

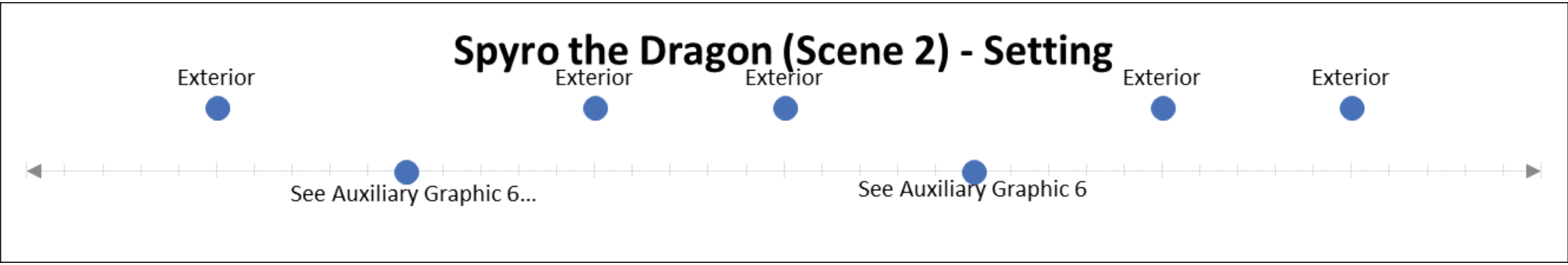

Spyro the Dragon (Scene 1) - Shapes
∞ Time ∞
Circle
Square
Triangle

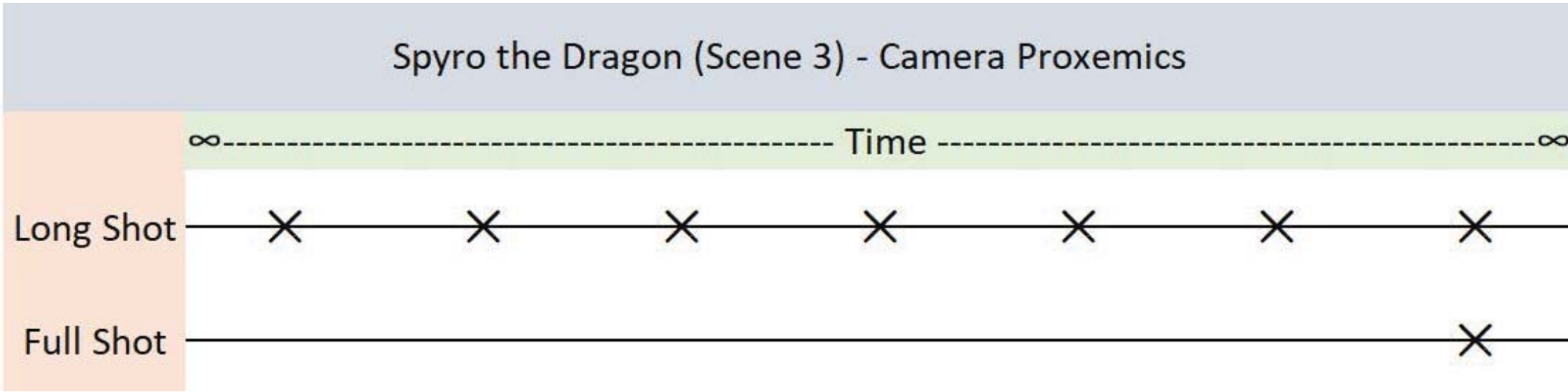

Spyro the Dragon (Scene 1) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
Exterior
Interior

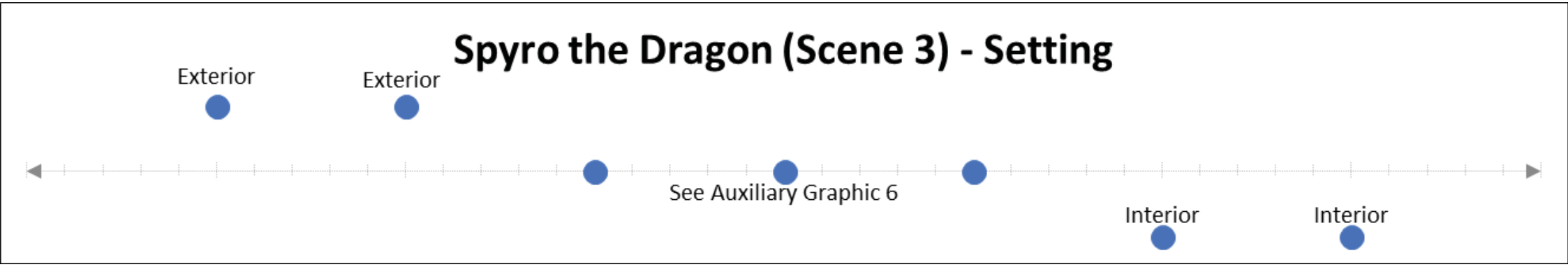
Spyro the Dragon (Scene 2) - Lighting Key

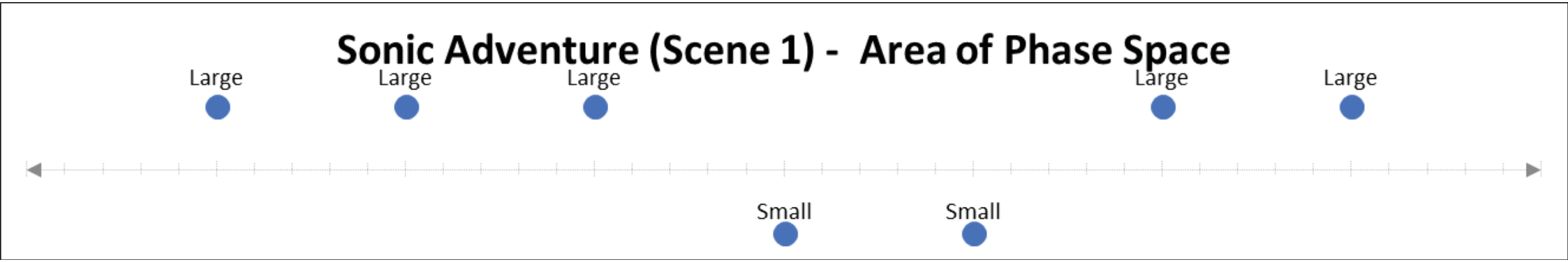
See Auxiliary Graphic 1

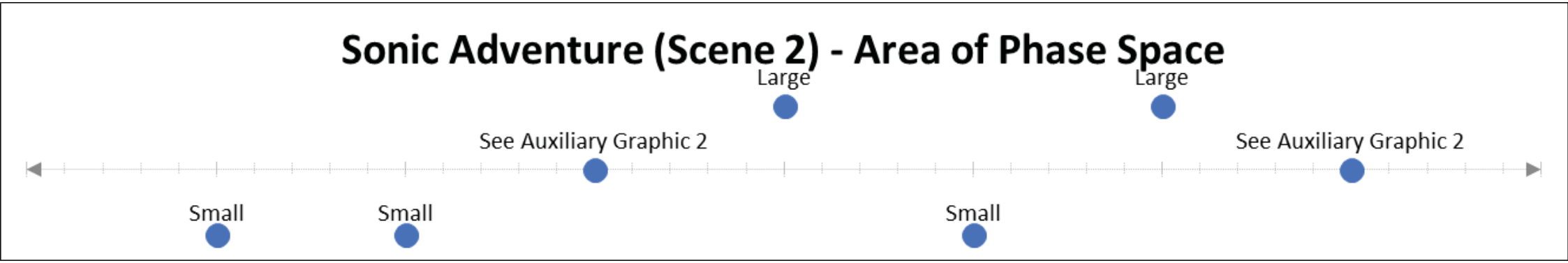

Spyro the Dragon (Scene 2) - Depth of Field
Applicable
N/A
N/A
N/A
N/A
N/A
N/A

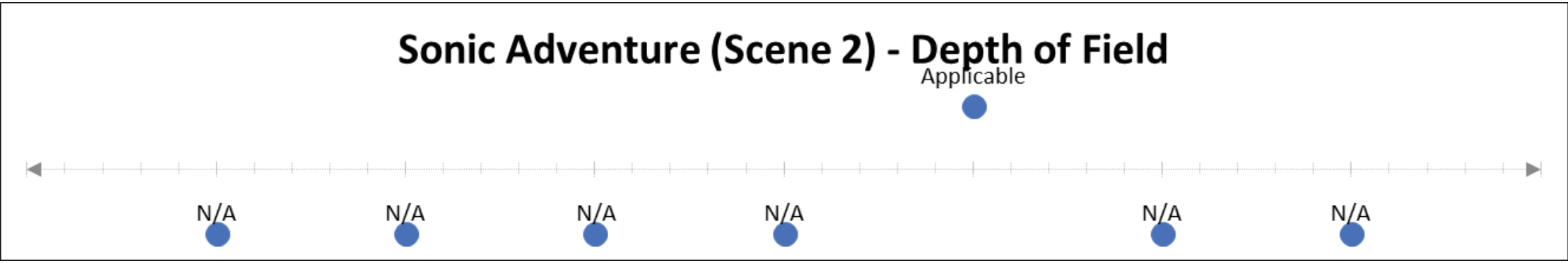

Spyro the Dragon (Scene 2) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
See Auxiliary Graphic 6...
See Auxiliary Graphic 6

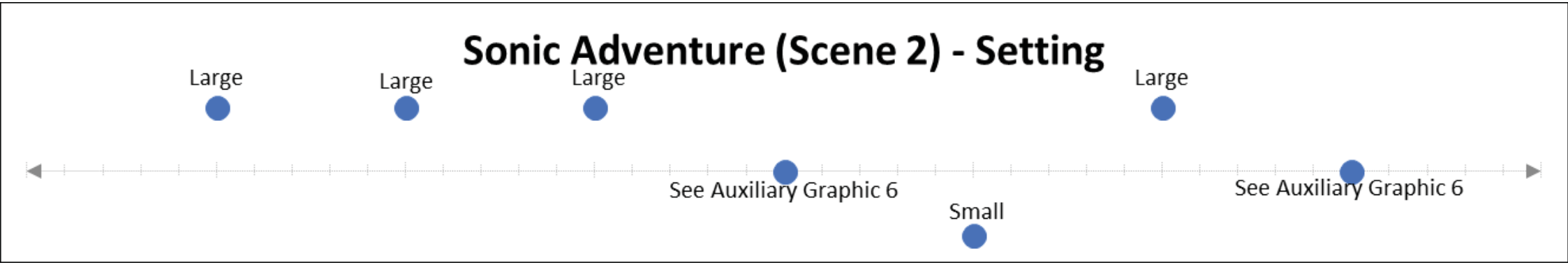

Spyro the Dragon (Scene 3) - Camera Proxemics
∞ Time ∞
Long Shot
Full Shot

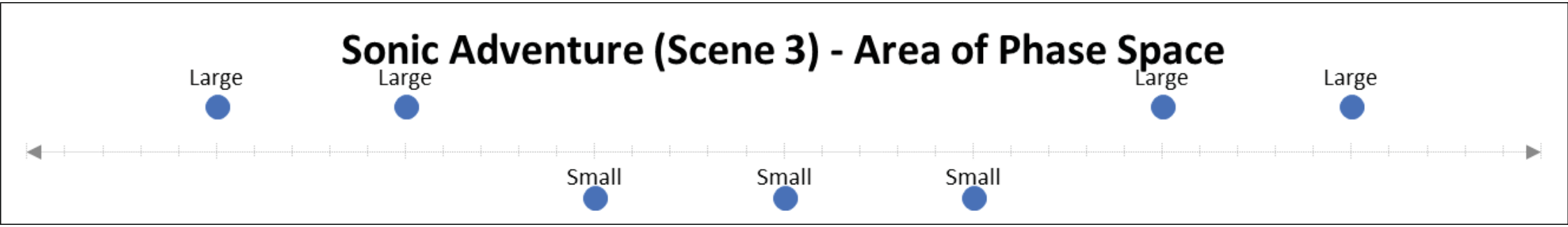

Spyro the Dragon (Scene 3) - Setting
Exterior
Exterior
See Auxiliary Graphic 6
Interior
Interior

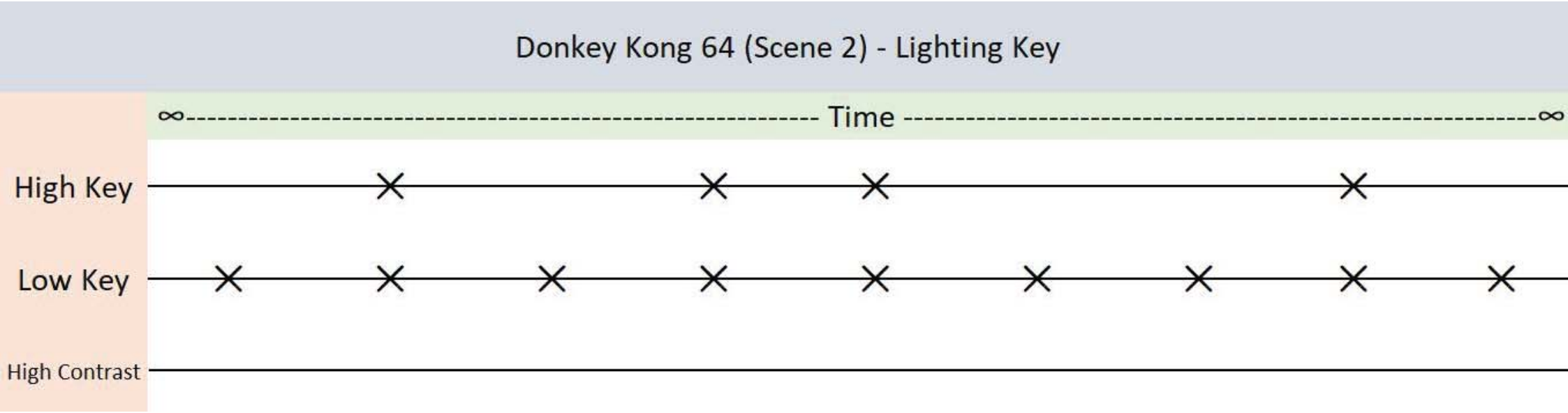

Sonic Adventure (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Large
Small
Small

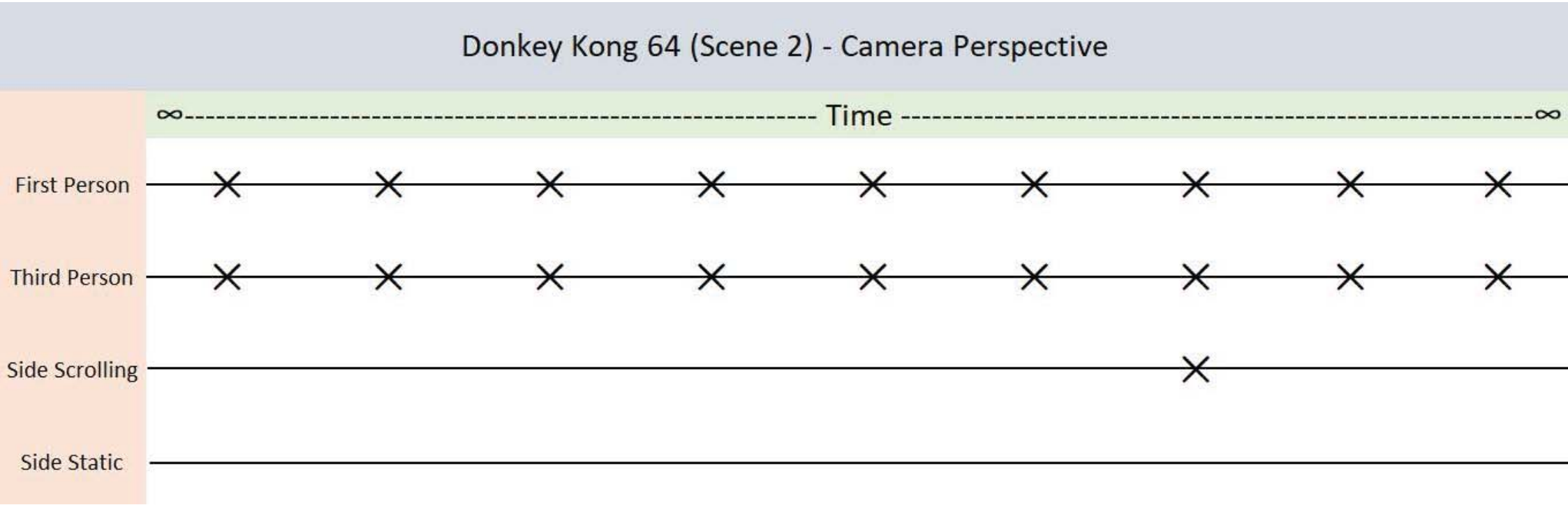

Sonic Adventure (Scene 2) - Area of Phase Space
Large
Large
See Auxiliary Graphic 2
See Auxiliary Graphic 2
Small
Small
Small

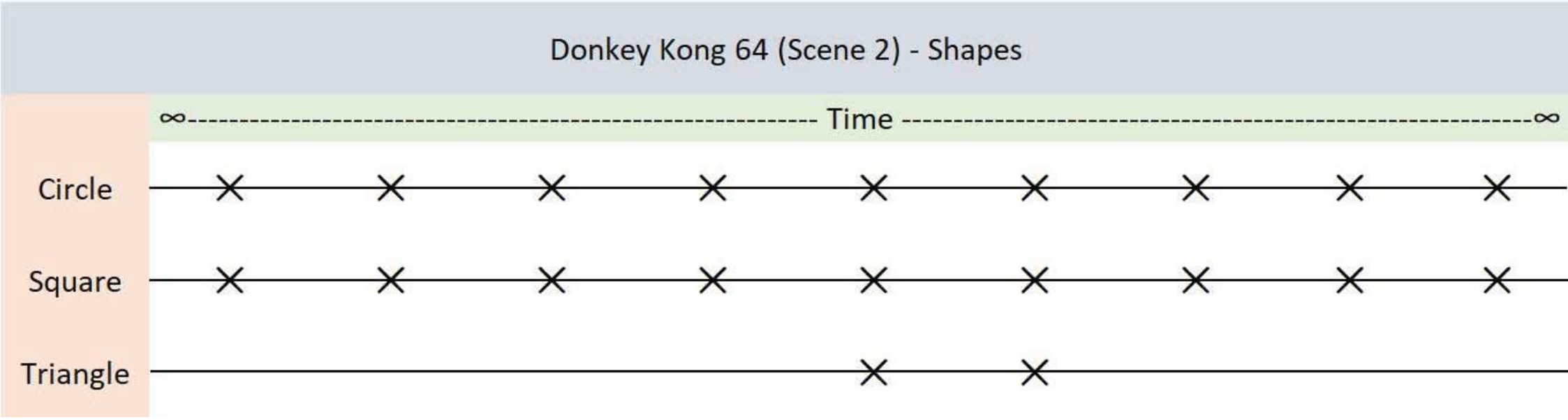

Sonic Adventure (Scene 2) - Depth of Field
Applicable
N/A
N/A
N/A
N/A
N/A
N/A

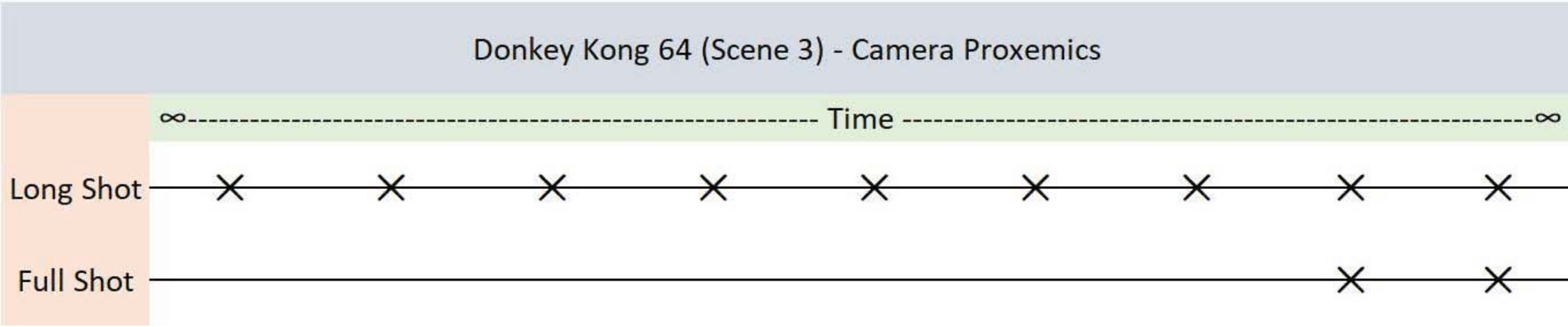

Sonic Adventure (Scene 2) - Setting
Large
Large
Large
Large
See Auxiliary Graphic 6
See Auxiliary Graphic 6
Small

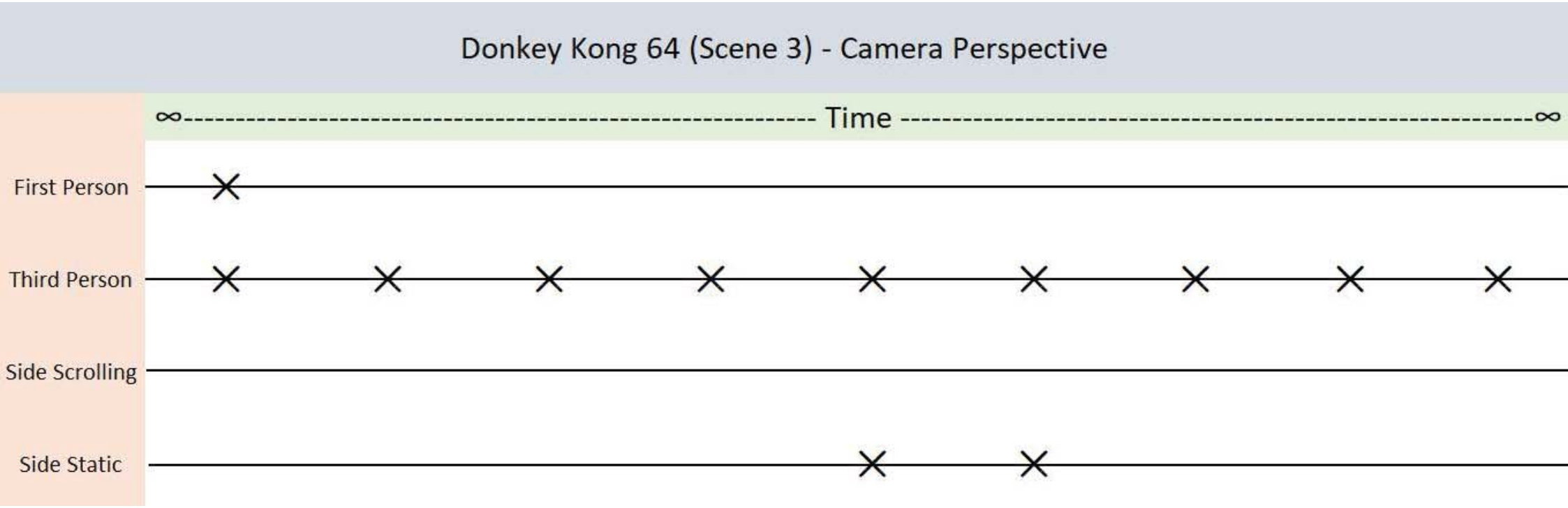

Sonic Adventure (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small

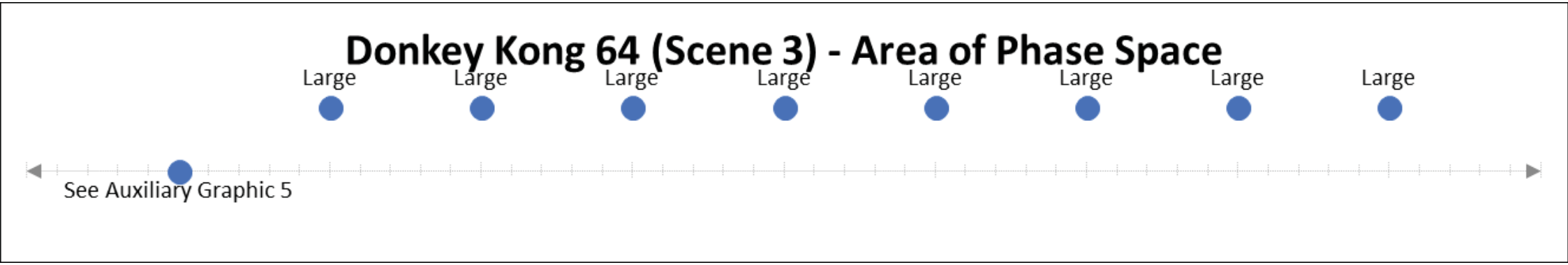

Donkey Kong 64 (Scene 2) - Lighting Key
∞---------- Time ----------∞
High Key
Low Key
High Contrast

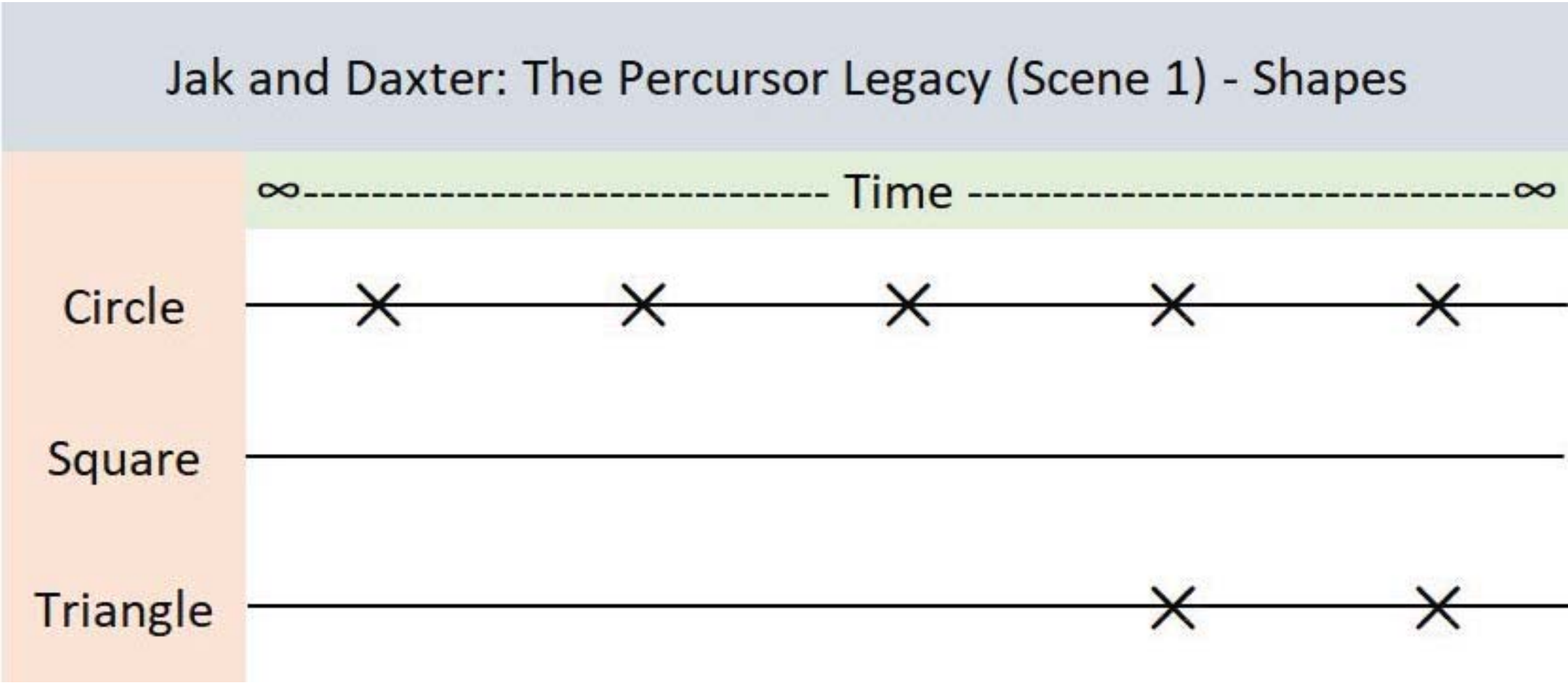

Donkey Kong 64 (Scene 2) - Camera Perspective
∞ Time ∞
First Person
Third Person
Side Scrolling
Side Static

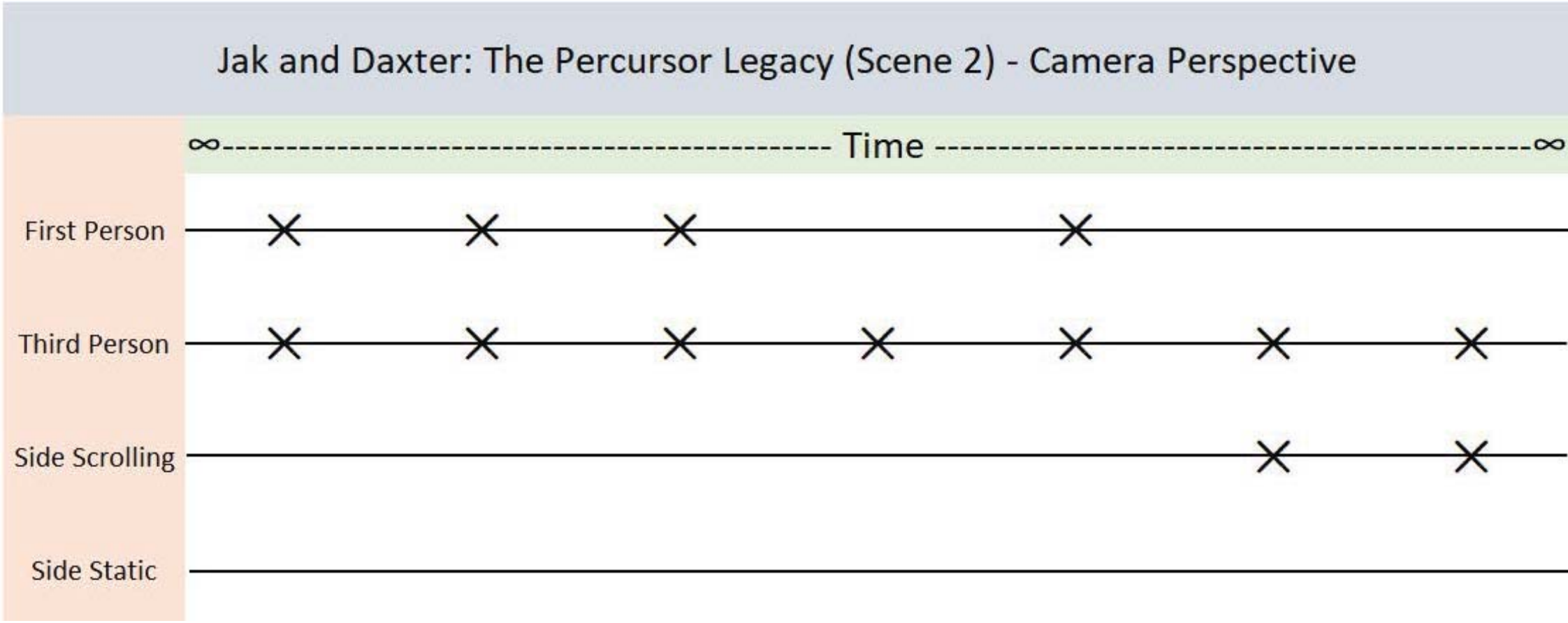

Donkey Kong 64 (Scene 2) - Shapes
∞ Time ∞
Circle
Square
Triangle

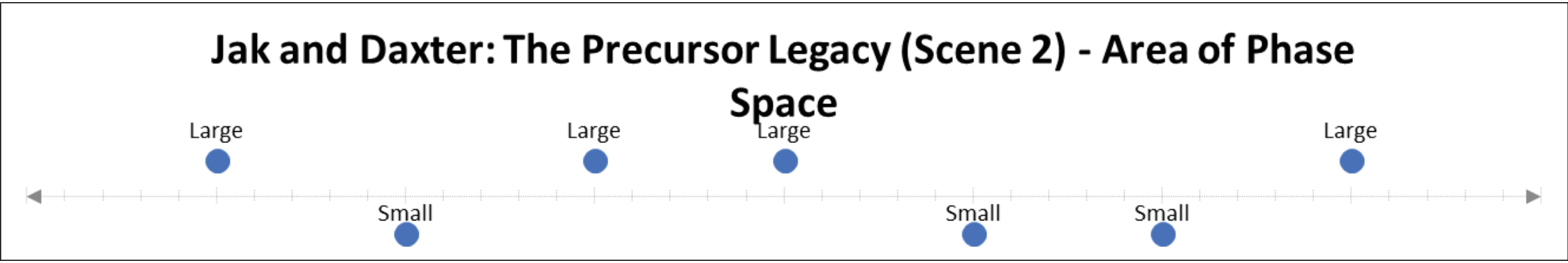

Donkey Kong 64 (Scene 3) - Camera Proxemics
∞ Time ∞
Long Shot
Full Shot

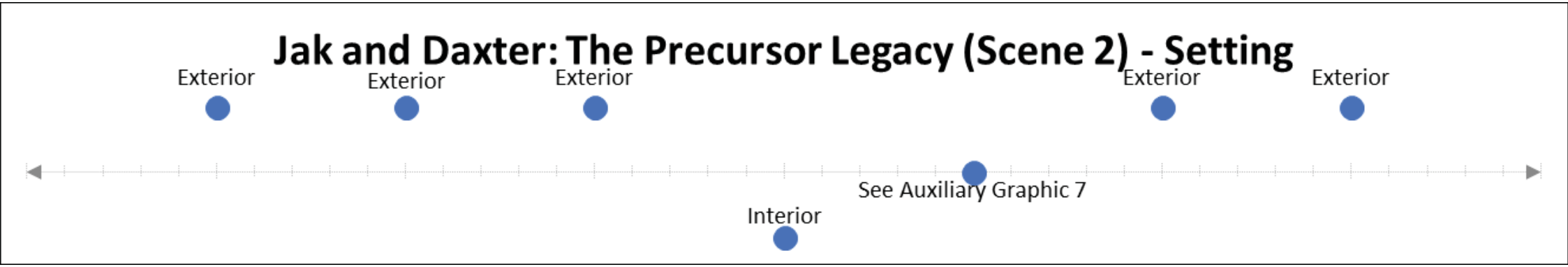

Donkey Kong 64 (Scene 3) - Camera Perspective
∞ Time ∞
First Person
Third Person
Side Scrolling
Side Static

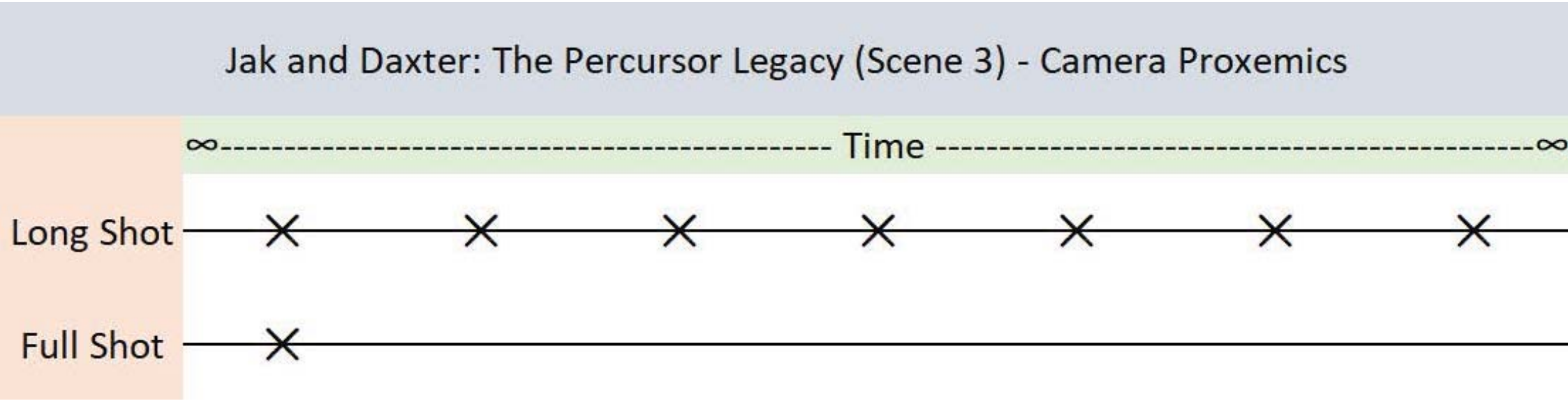

Donkey Kong 64 (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Large
Large
Large
Large
See Auxiliary Graphic 5

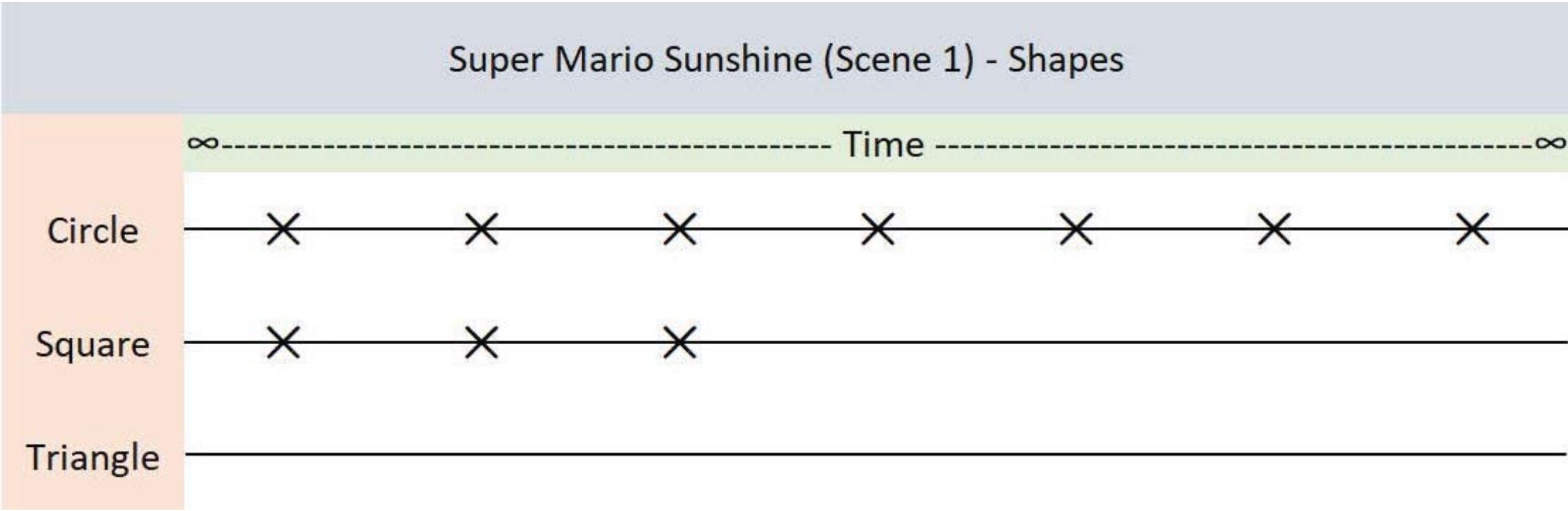

Jak and Daxter: The Percursor Legacy (Scene 1) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

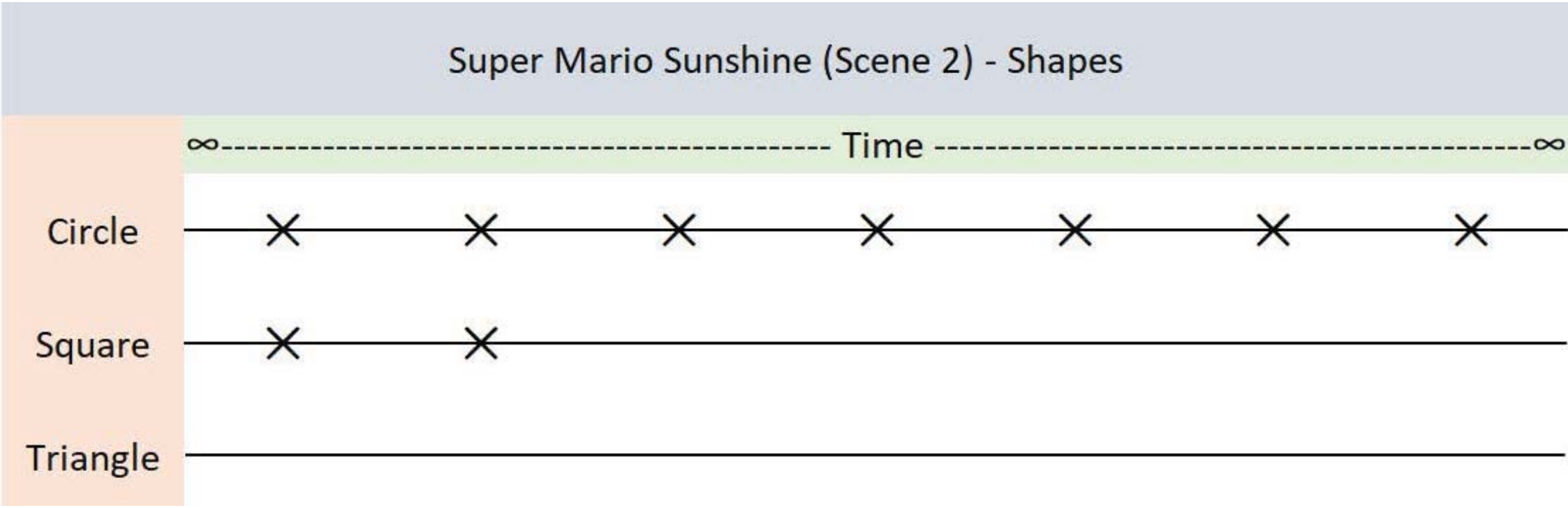

Jak and Daxter: The Percursor Legacy (Scene 2) - Camera Perspective
∞---------- Time ----------∞
First Person
Third Person
Side Scrolling
Side Static

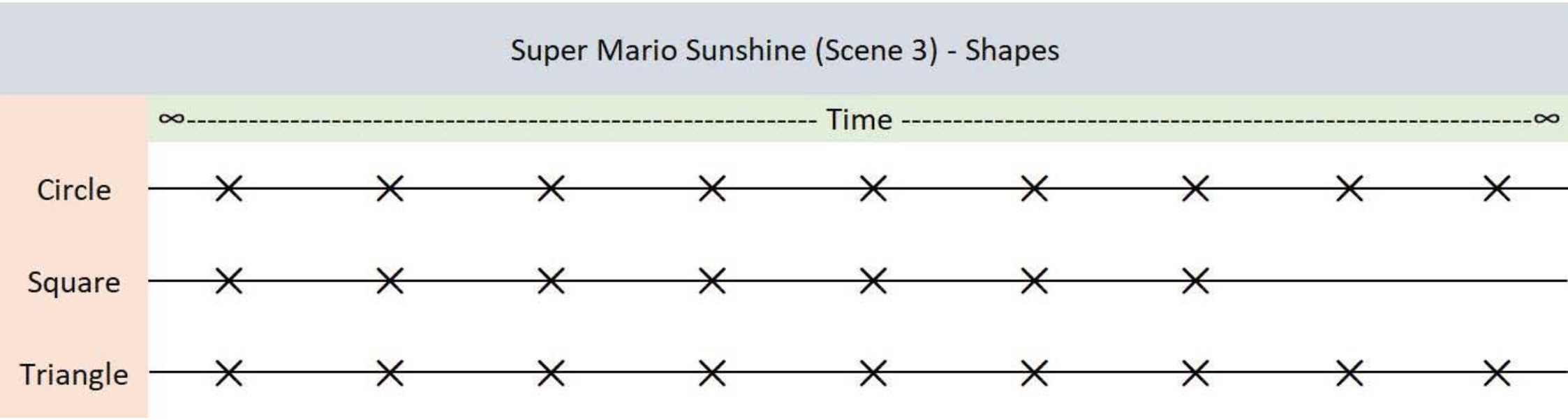

Jak and Daxter: The Precursor Legacy (Scene 2) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small

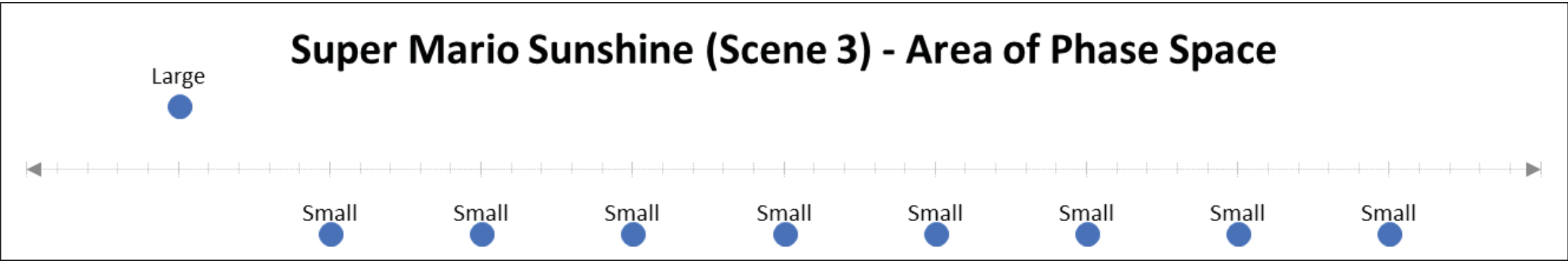

Jak and Daxter: The Precursor Legacy (Scene 2) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
See Auxiliary Graphic 7
Interior

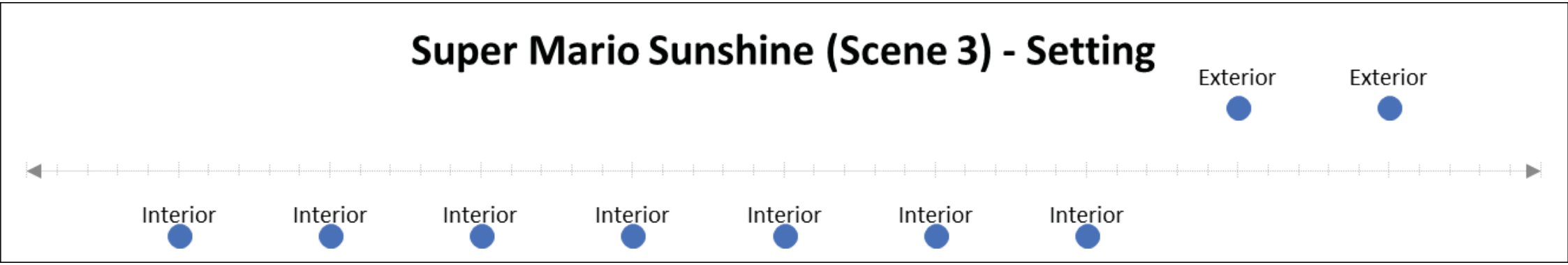

Jak and Daxter: The Percursor Legacy (Scene 3) - Camera Proxemics
∞ Time ∞
Long Shot
Full Shot

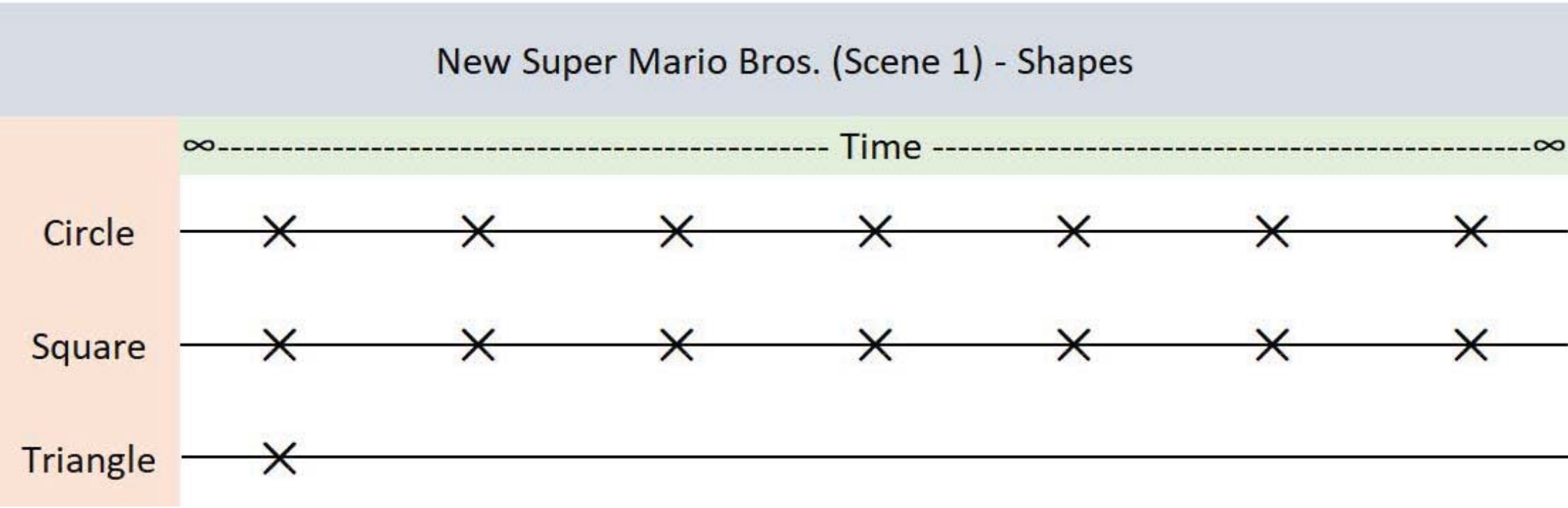

Super Mario Sunshine (Scene 1) - Shapes
∞ Time ∞
Circle
Square
Triangle

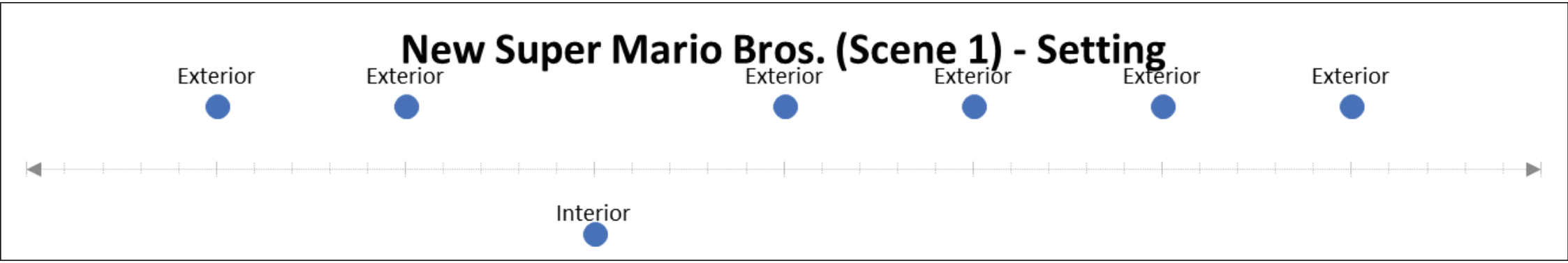

Super Mario Sunshine (Scene 2) - Shapes
∞ Time ∞
Circle
Square
Triangle

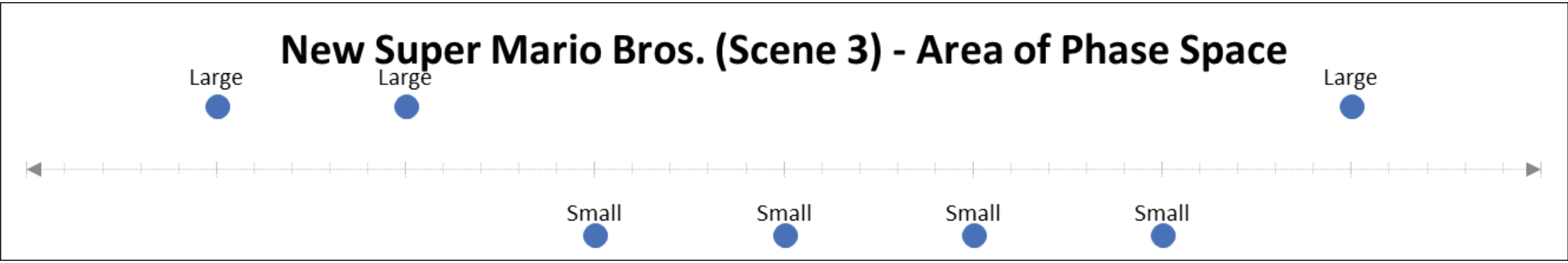

Super Mario Sunshine (Scene 3) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

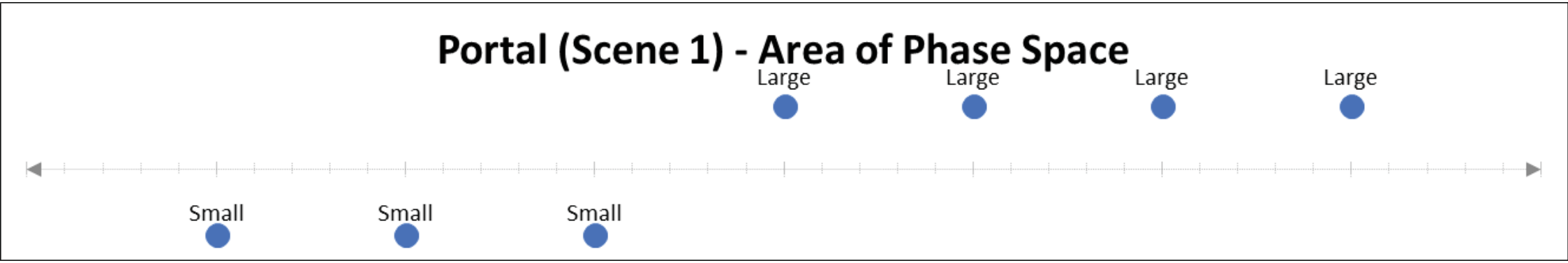

Super Mario Sunshine (Scene 3) - Area of Phase Space
Large
Small
Small
Small
Small
Small
Small
Small
Small

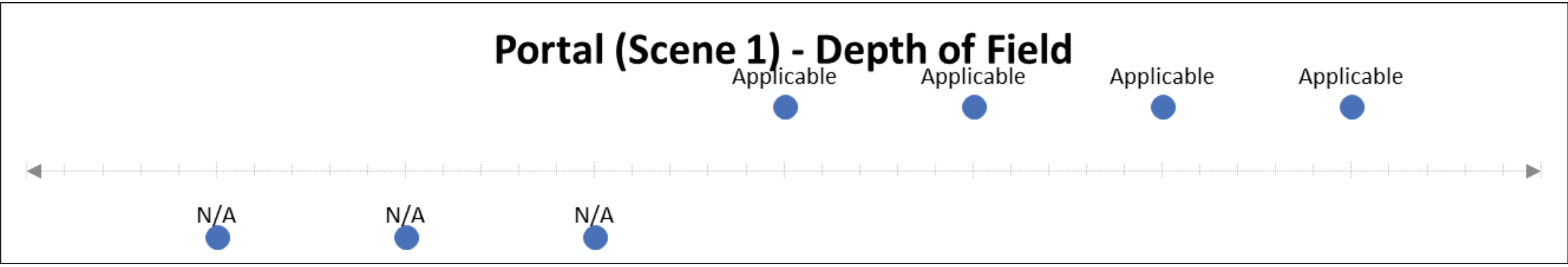

Super Mario Sunshine (Scene 3) - Setting
Exterior
Exterior
Interior
Interior
Interior
Interior
Interior
Interior
Interior

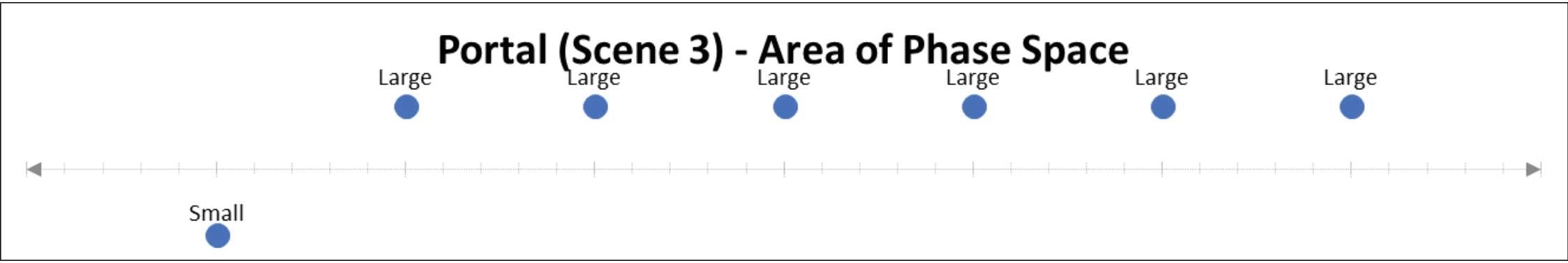

New Super Mario Bros. (Scene 1) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

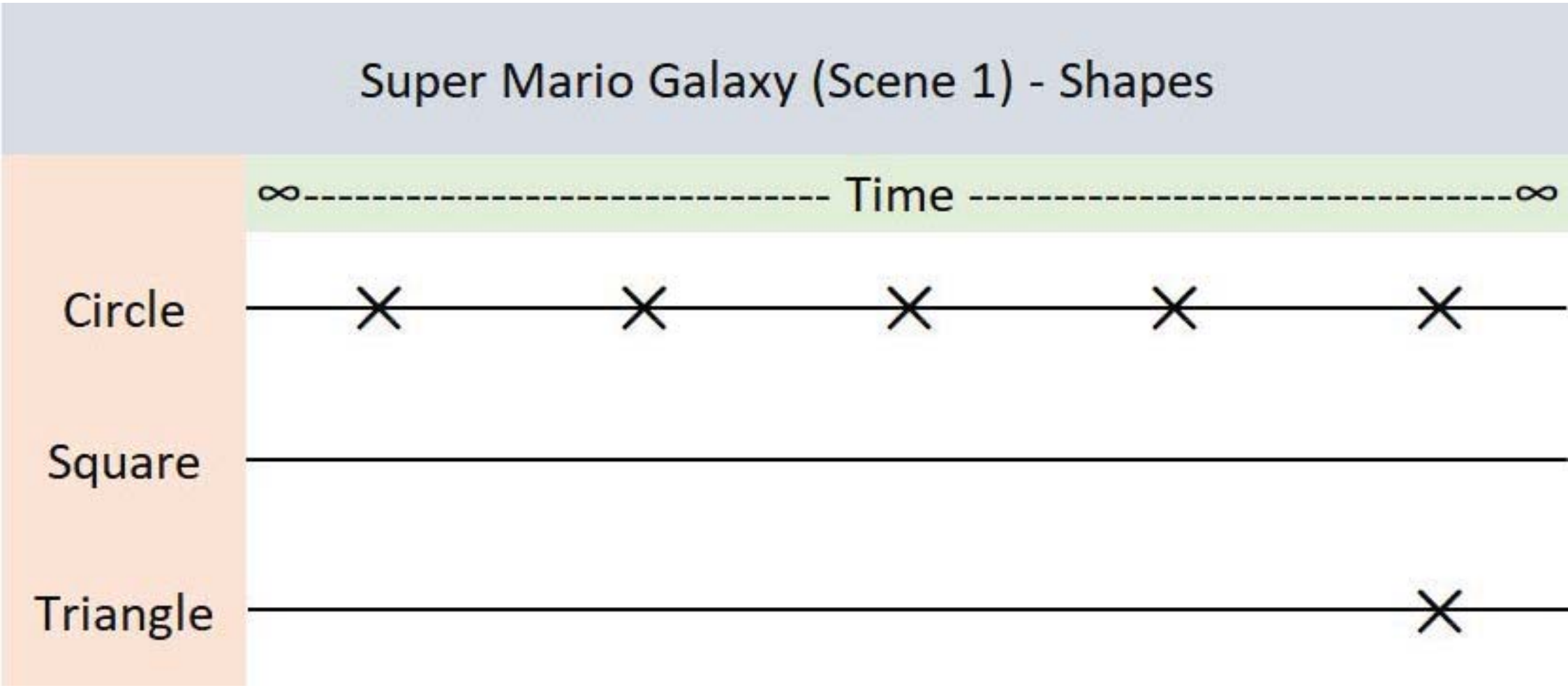

New Super Mario Bros. (Scene 1) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
Exterior
Interior

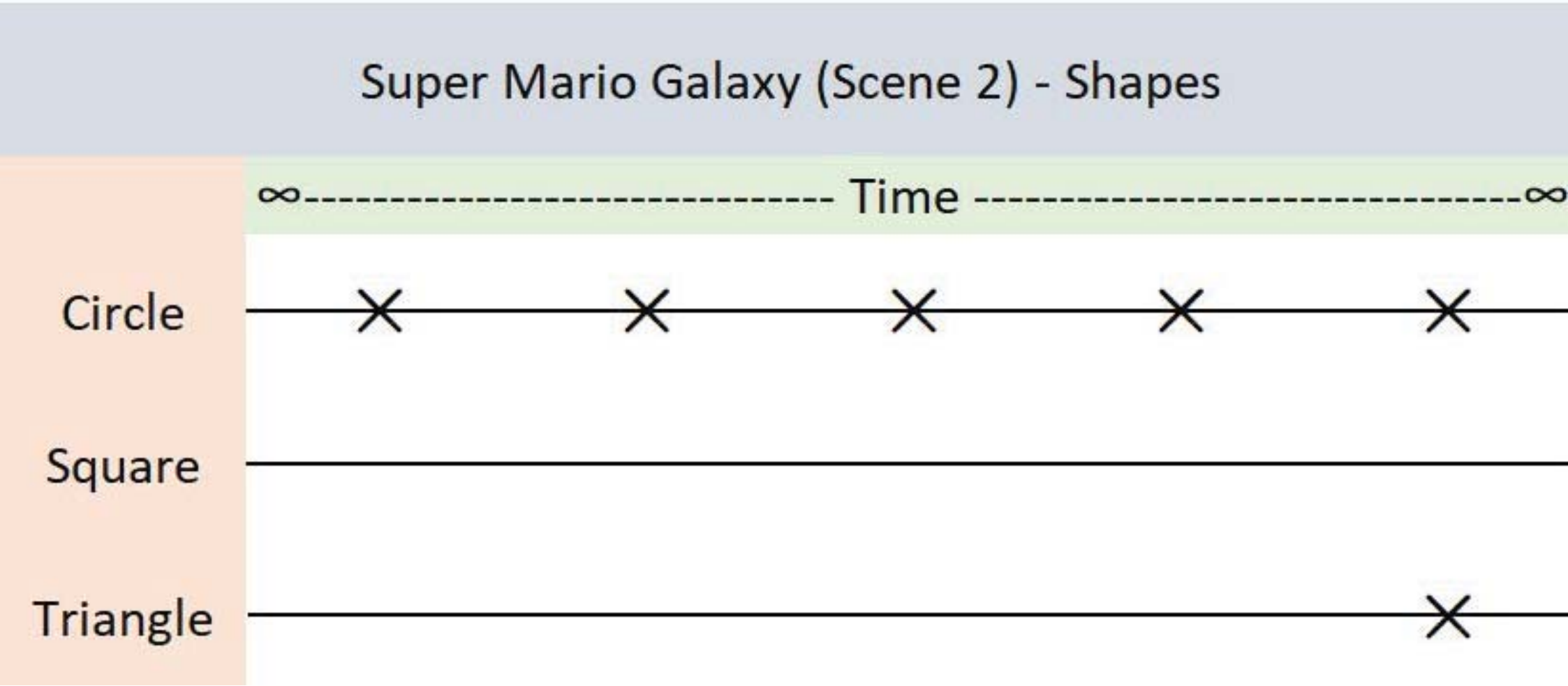

New Super Mario Bros. (Scene 3) - Area of Phase Space
Large
Large
Large
Small
Small
Small
Small

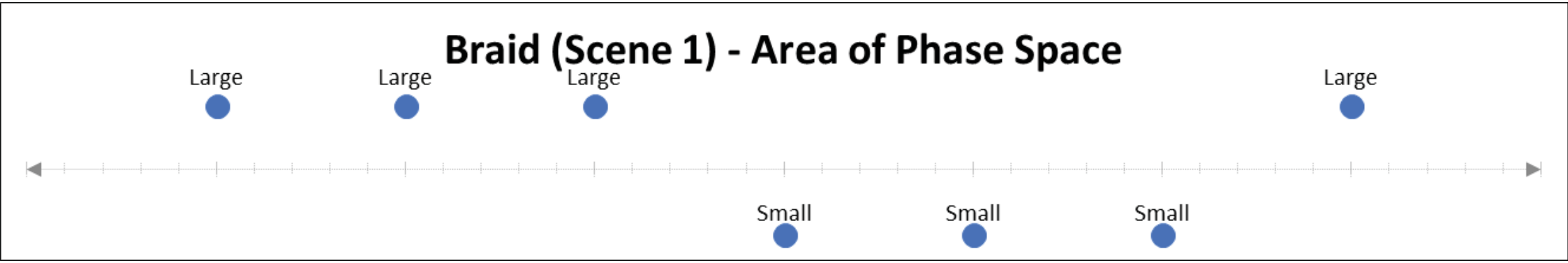

Portal (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small

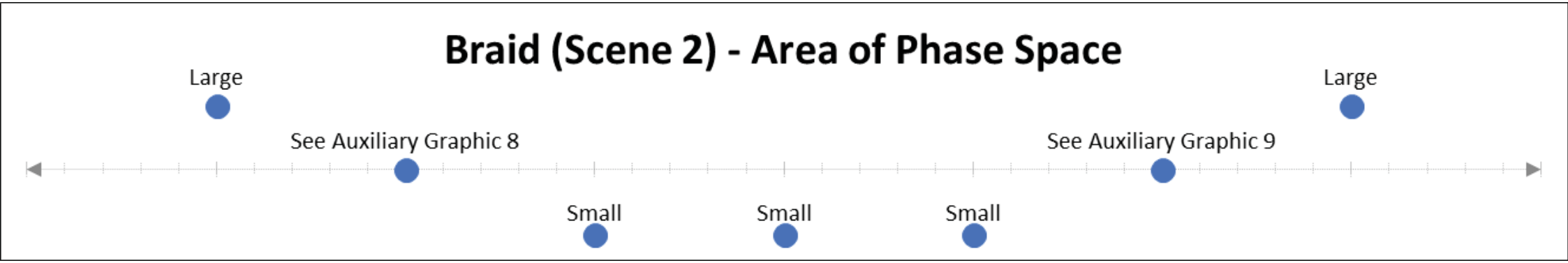

Portal (Scene 1) - Depth of Field
Applicable
Applicable
Applicable
Applicable
N/A
N/A
N/A

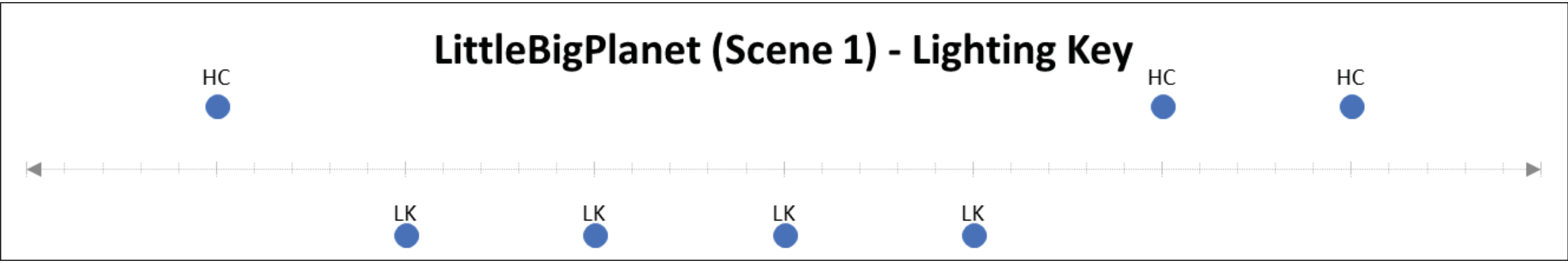

Portal (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Large
Large
Small

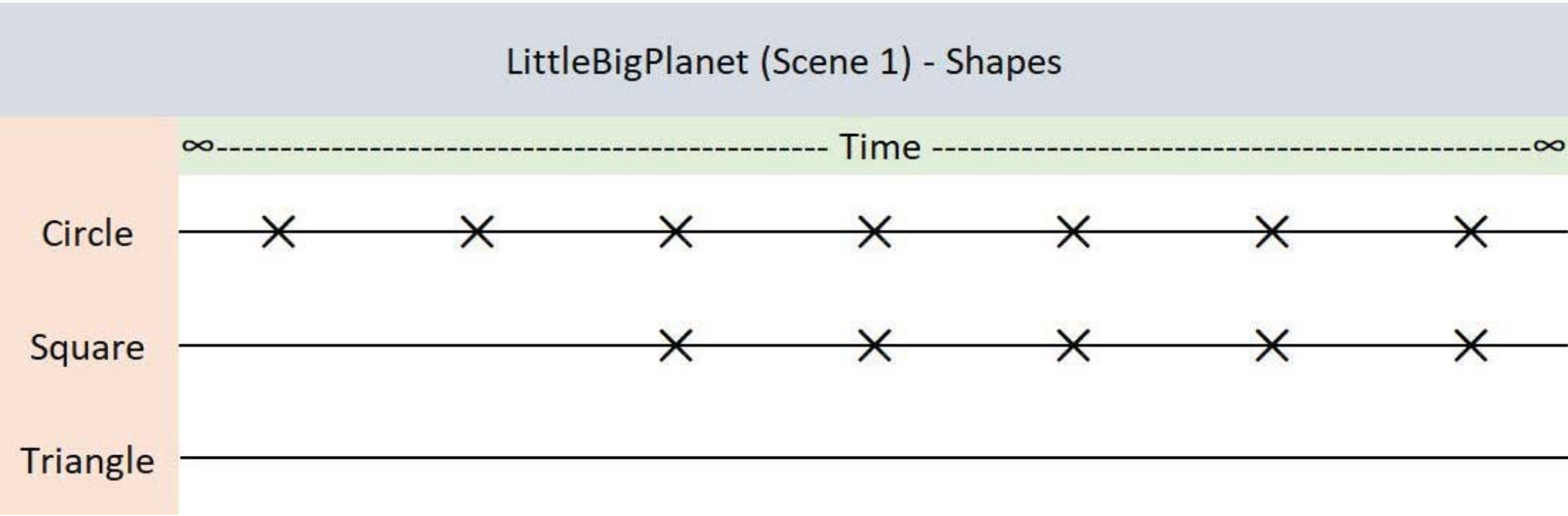

Super Mario Galaxy (Scene 1) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle


Super Mario Galaxy (Scene 2) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

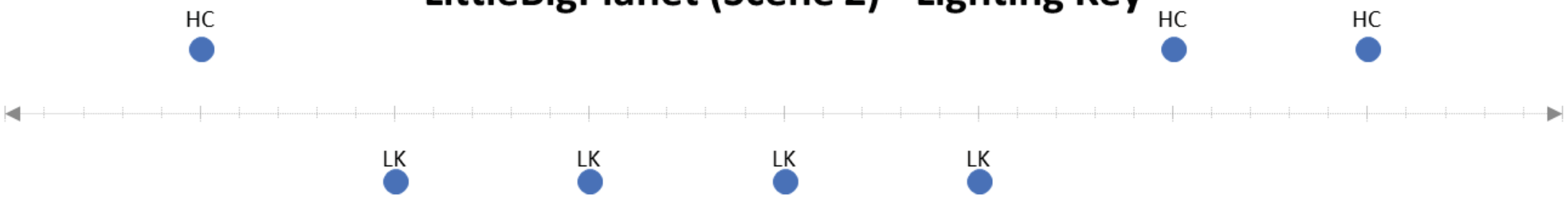

Braid (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small

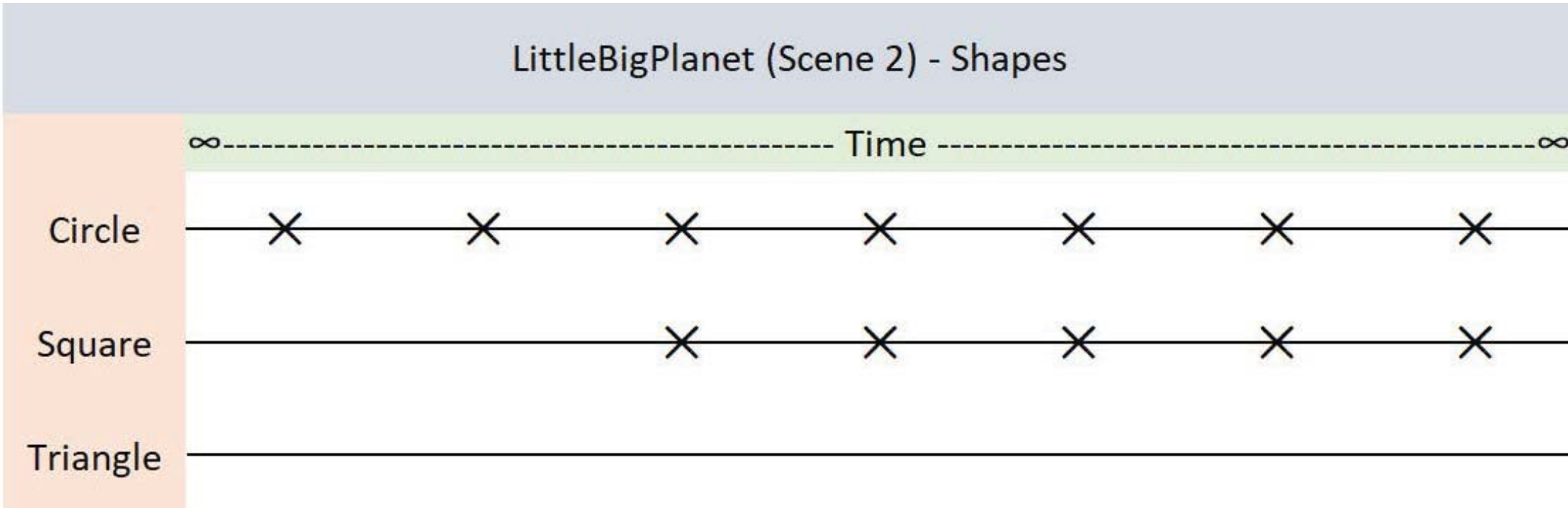

Braid (Scene 2) - Area of Phase Space
Large
Large
See Auxiliary Graphic 8
See Auxiliary Graphic 9
Small
Small
Small

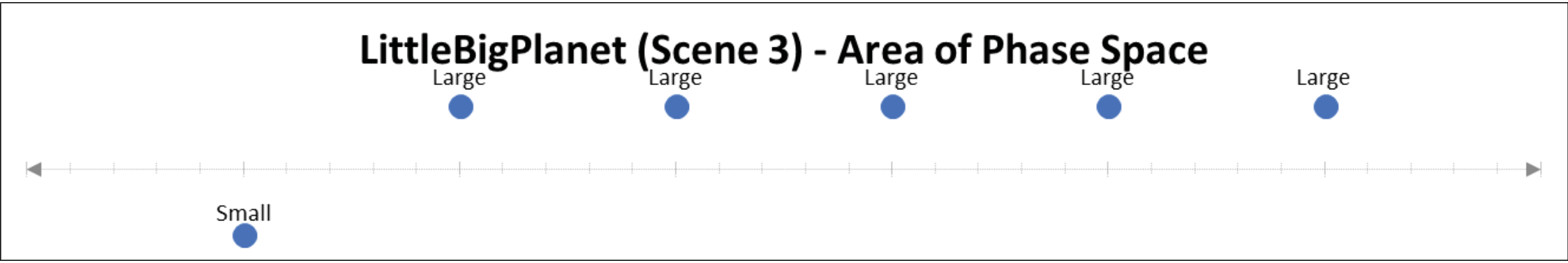

LittleBigPlanet (Scene 1) - Lighting Key
HC
HC
HC
LK
LK
LK
LK

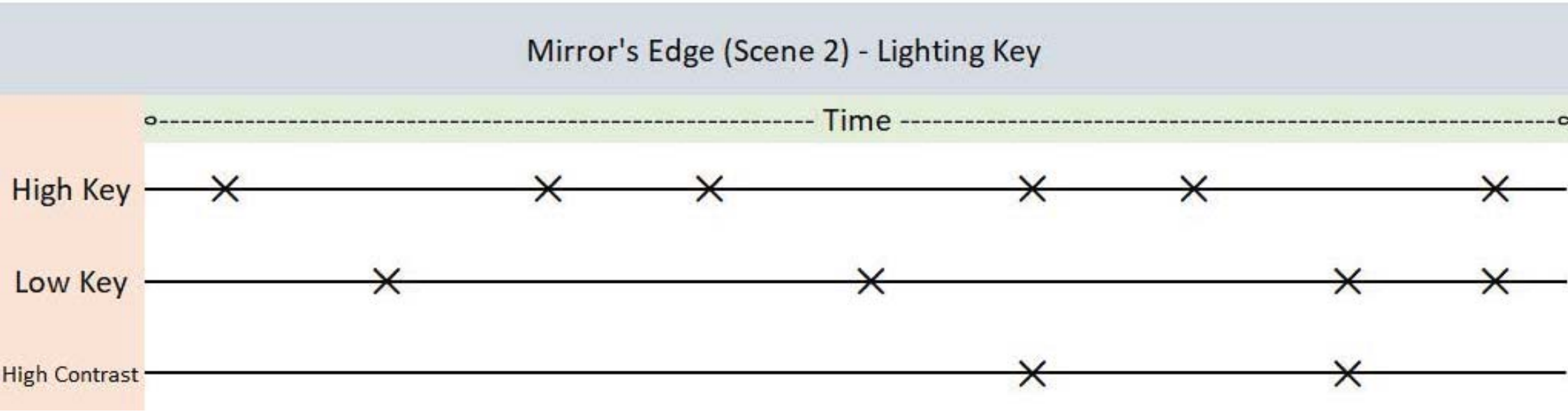

LittleBigPlanet (Scene 1) - Shapes
∞ Time ∞
Circle
Square
Triangle

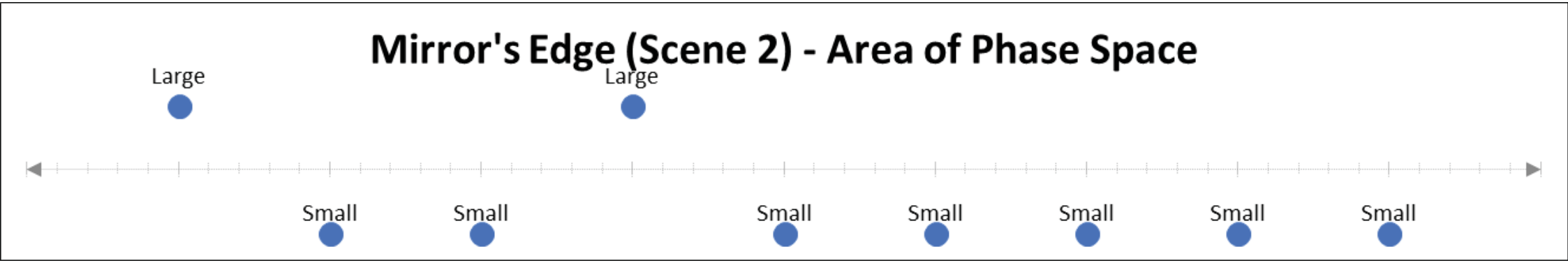
LittleBigPlanet (Scene 2) - Lighting Key

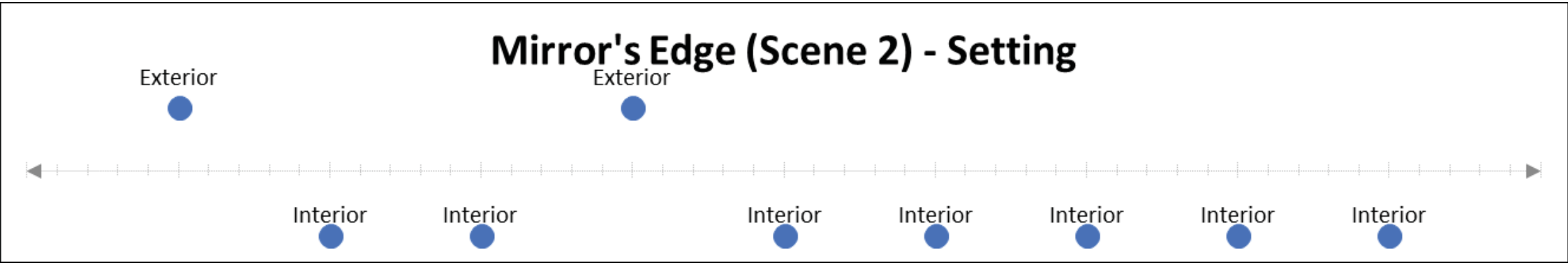


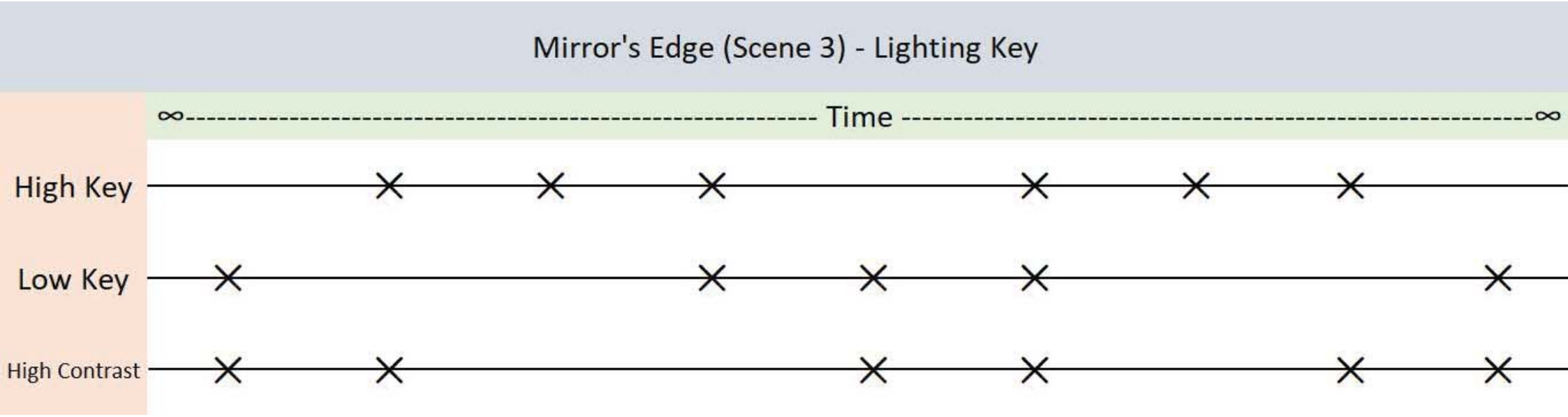

LittleBigPlanet (Scene 2) - Shapes
∞ Time ∞
Circle
Square
Triangle

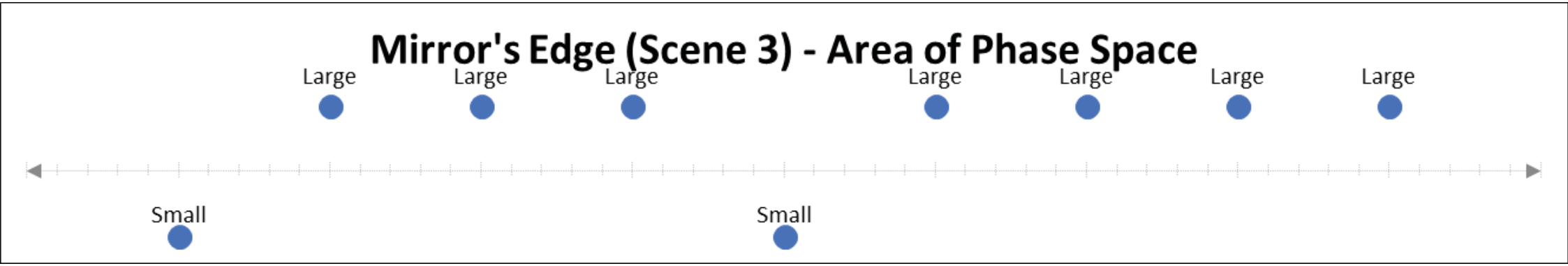

LittleBigPlanet (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Large
Small

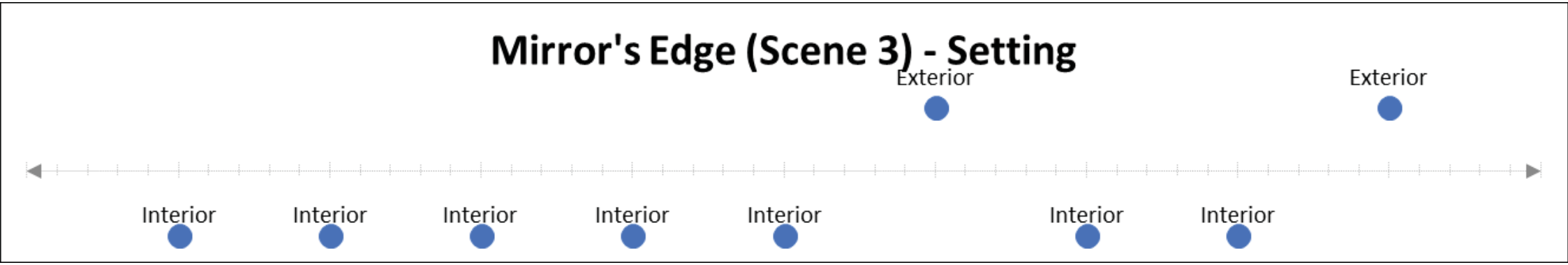

Mirror's Edge (Scene 2) - Lighting Key
Time
High Key
Low Key
High Contrast

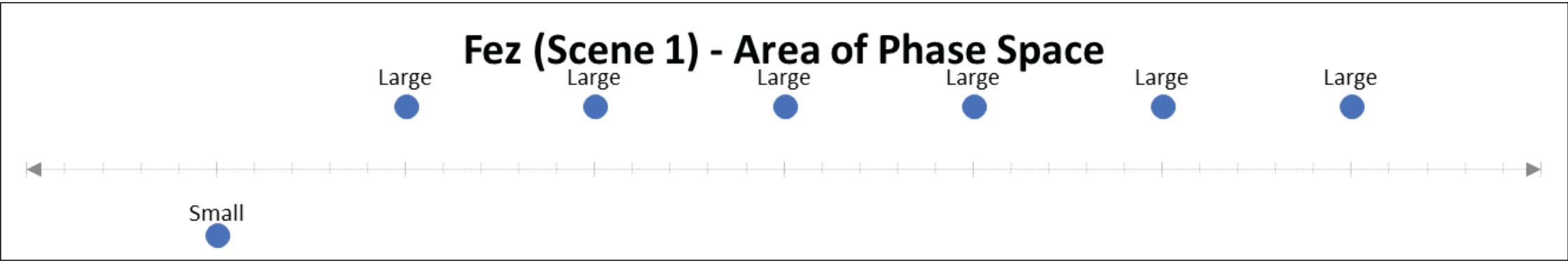

Mirror's Edge (Scene 2) - Area of Phase Space
Large
Large
Small
Small
Small
Small
Small
Small
Small

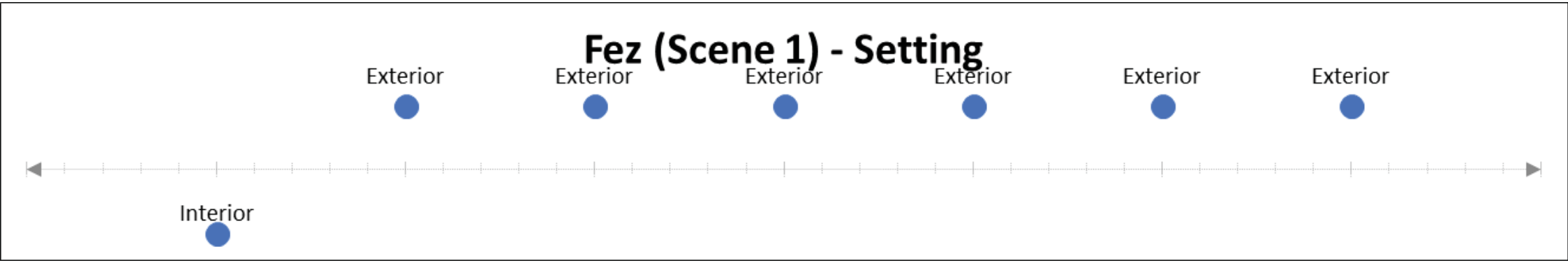

Mirror's Edge (Scene 2) - Setting
Exterior
Exterior
Interior
Interior
Interior
Interior
Interior
Interior
Interior

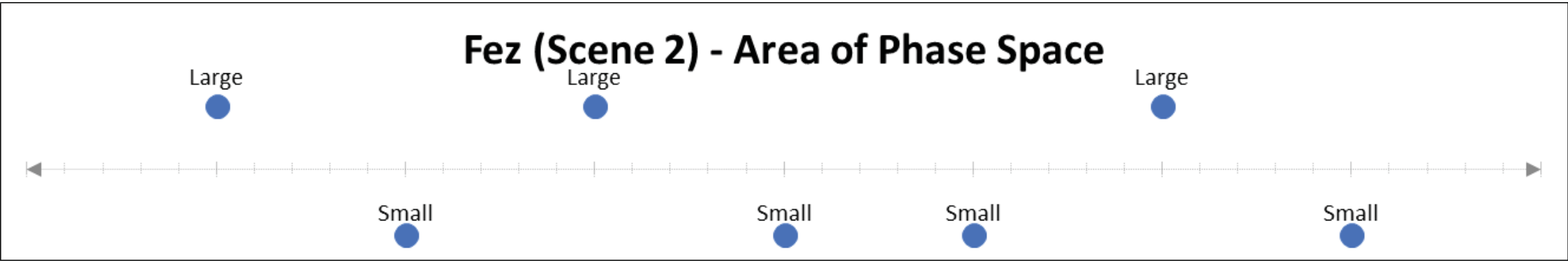

Mirror's Edge (Scene 3) - Lighting Key
∞ Time ∞
High Key
Low Key
High Contrast


Mirror's Edge (Scene 3) - Area of Phase Space
Large
Large
Large
Large
Large
Large
Large
Small
Small

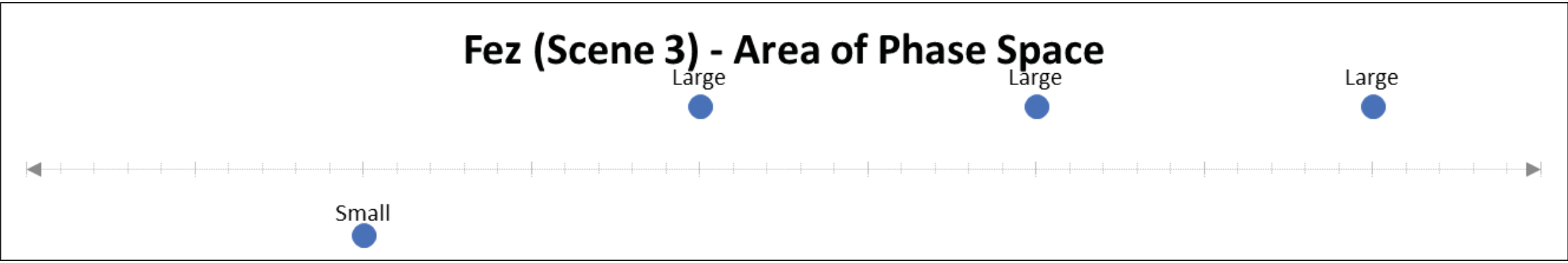

Mirror's Edge (Scene 3) - Setting
Exterior
Exterior
Interior
Interior
Interior
Interior
Interior
Interior
Interior


Fez (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Large
Large
Small

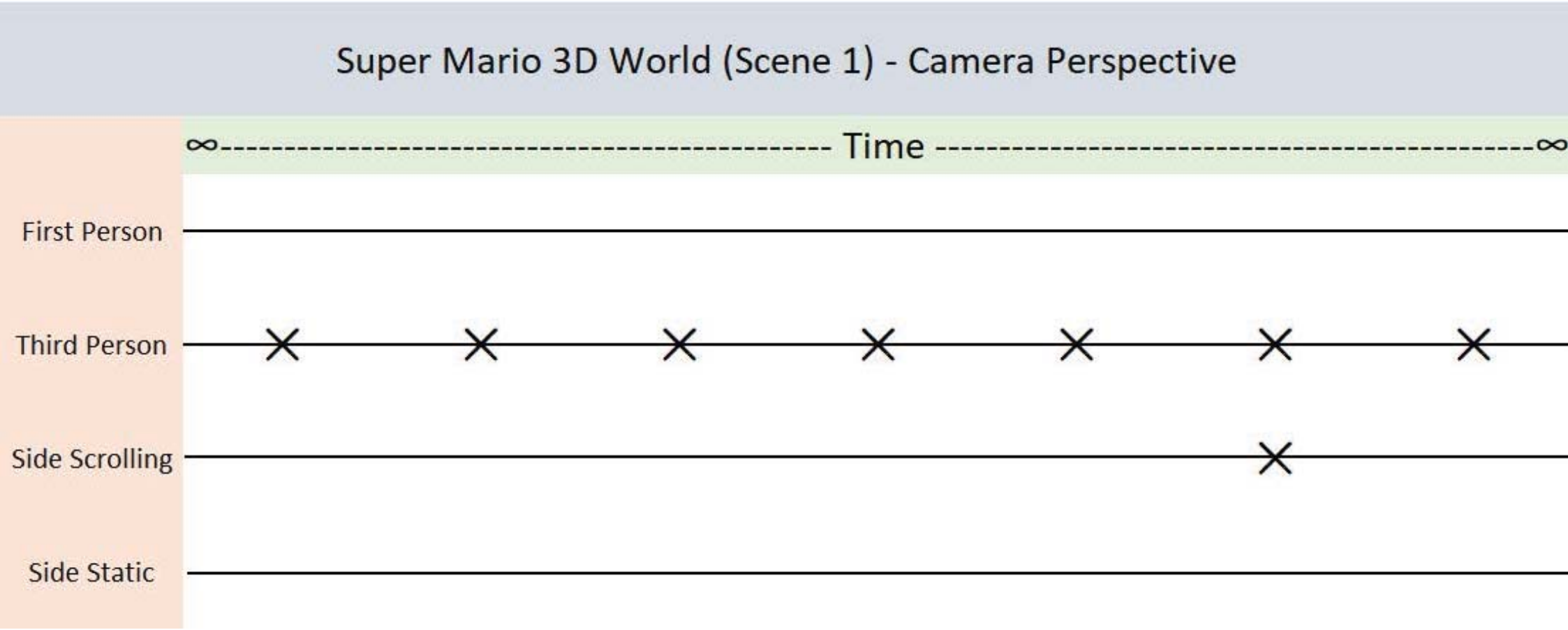

Fez (Scene 1) - Setting
Exterior
Exterior
Exterior
Exterior
Exterior
Exterior
Interior

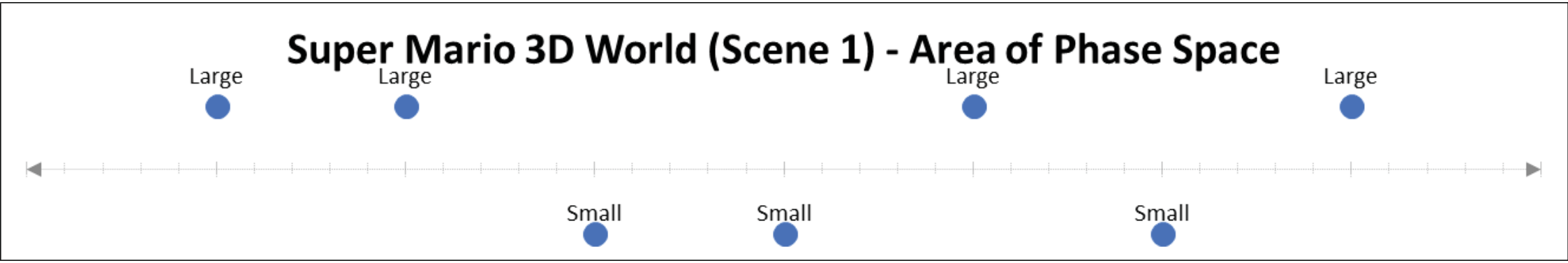

Fez (Scene 2) - Area of Phase Space
Large
Large
Large
Small
Small
Small
Small

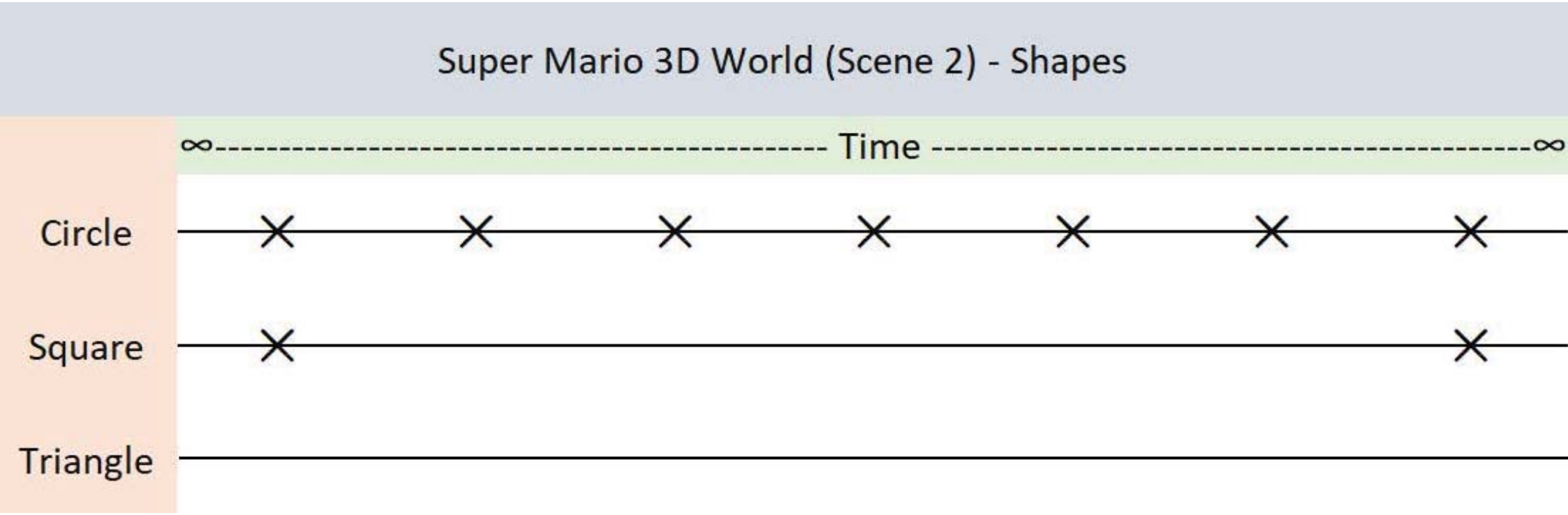
Fez (Scene 2) - Setting

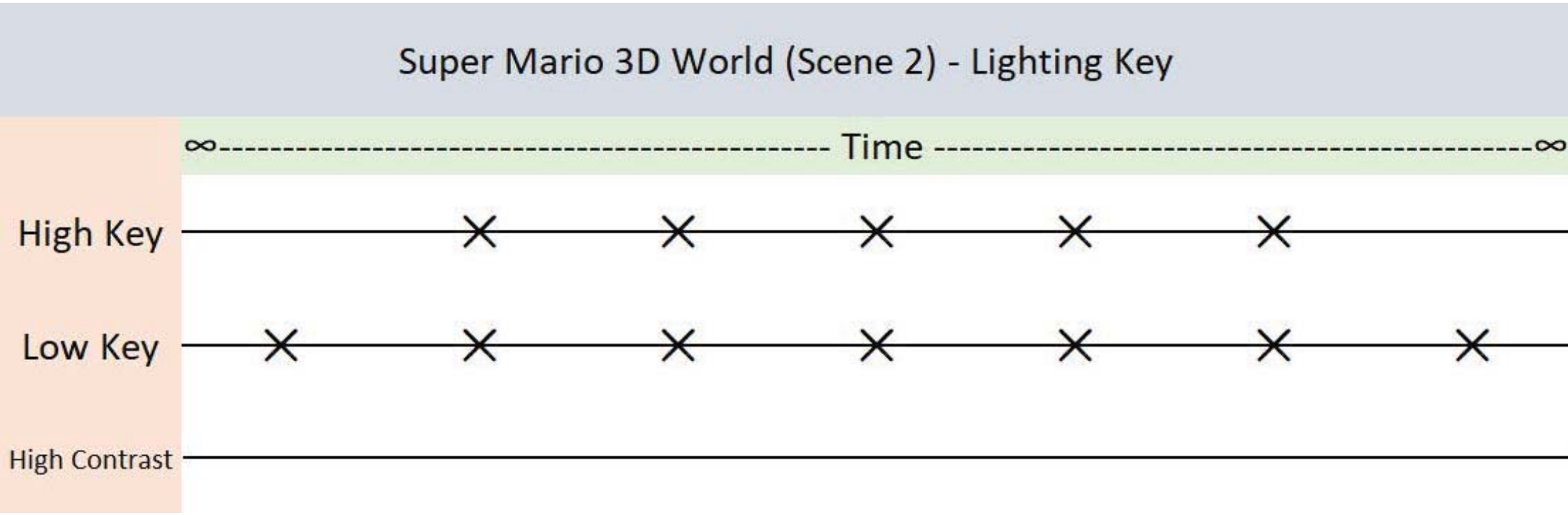

Fez (Scene 3) - Area of Phase Space
Large
Large
Large
Small

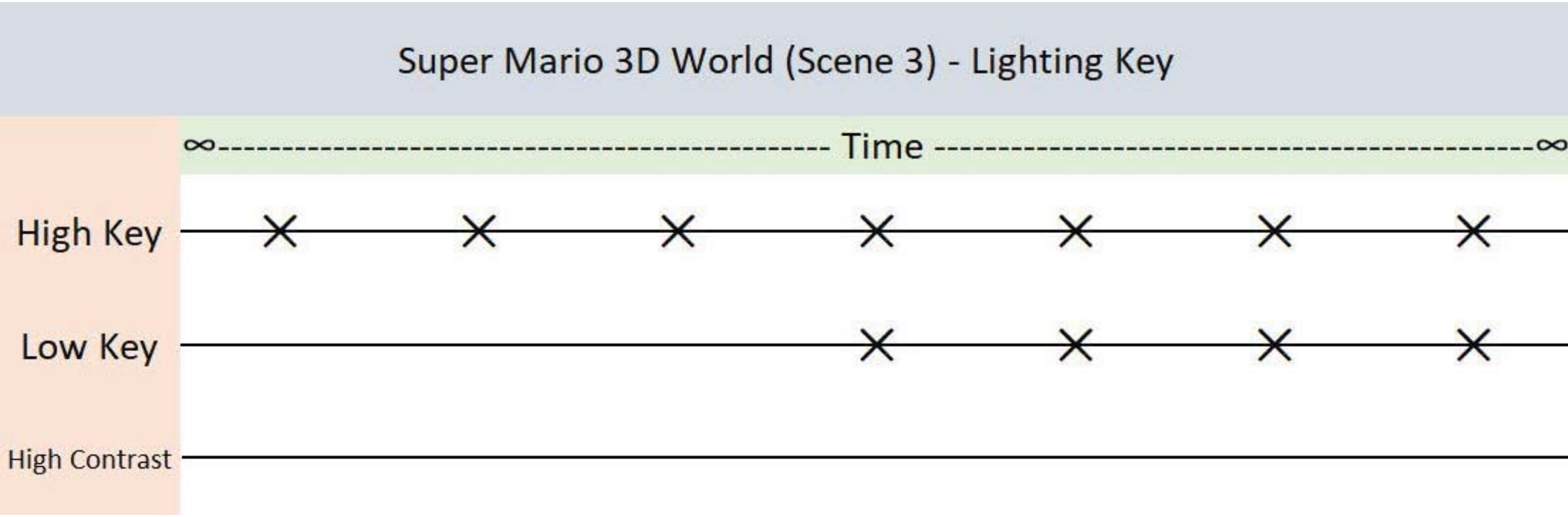

Fez (Scene 3) - Setting
Exterior
Exterior
Exterior
Interior

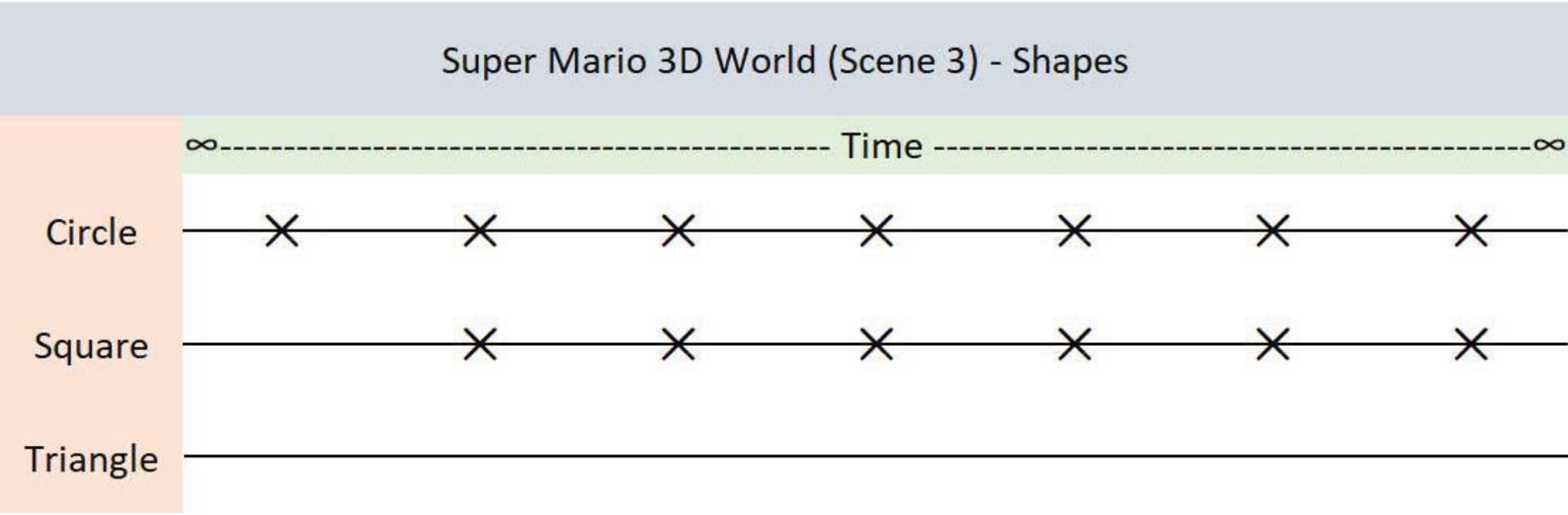

Super Mario 3D World (Scene 1) - Camera Perspective
∞ Time ∞
First Person
Third Person
Side Scrolling
Side Static

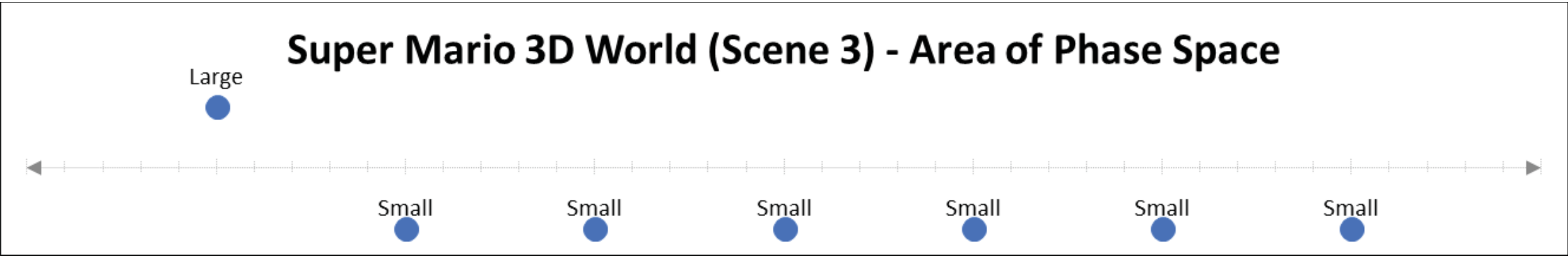

Super Mario 3D World (Scene 1) - Area of Phase Space
Large
Large
Large
Large
Small
Small
Small


Super Mario 3D World (Scene 2) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

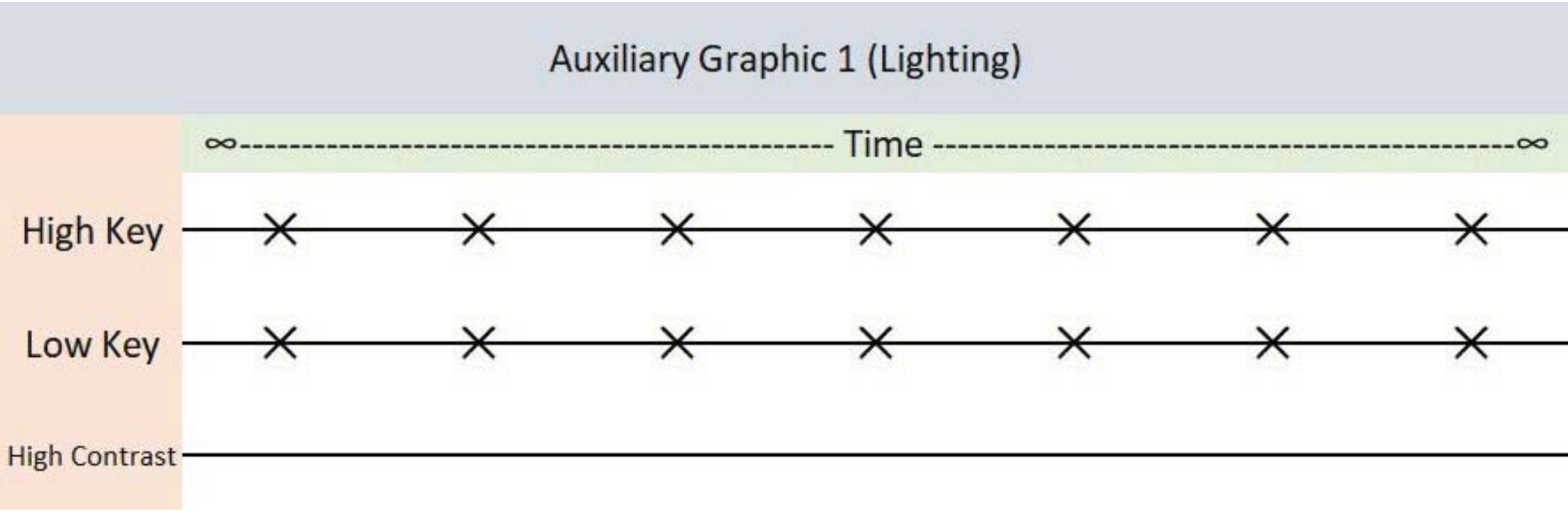

Super Mario 3D World (Scene 2) - Lighting Key
∞---------- Time ----------∞
High Key
Low Key
High Contrast

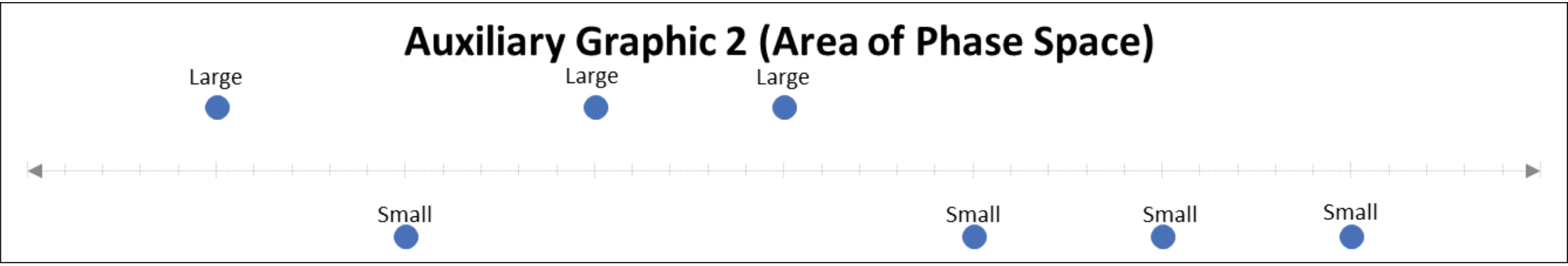

Super Mario 3D World (Scene 3) - Lighting Key
∞ Time ∞
High Key
Low Key
High Contrast

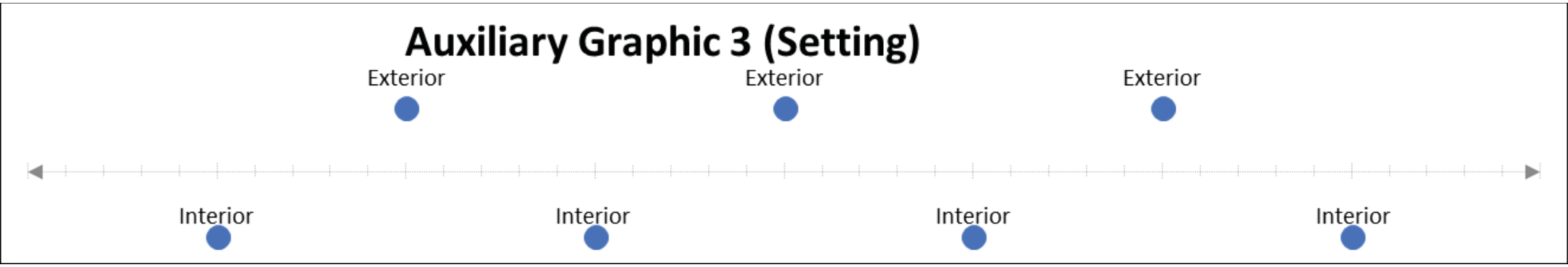

Super Mario 3D World (Scene 3) - Shapes
∞---------- Time ----------∞
Circle
Square
Triangle

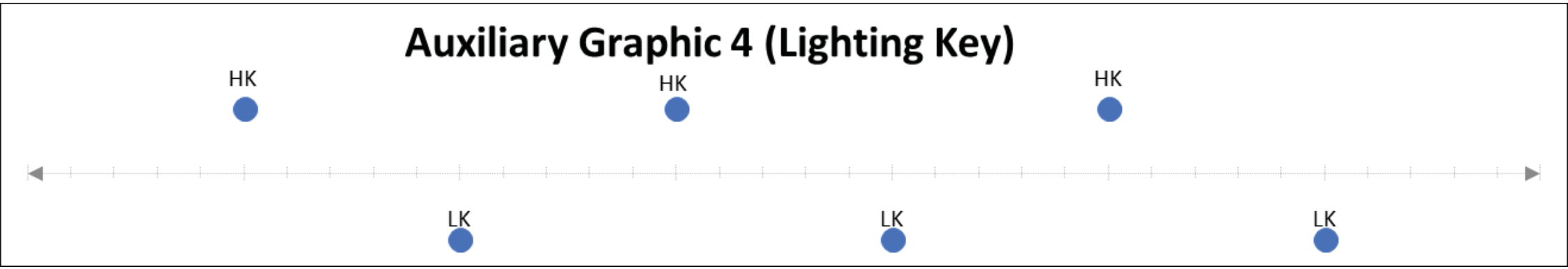

Super Mario 3D World (Scene 3) - Area of Phase Space
Large
Small
Small
Small
Small
Small
Small

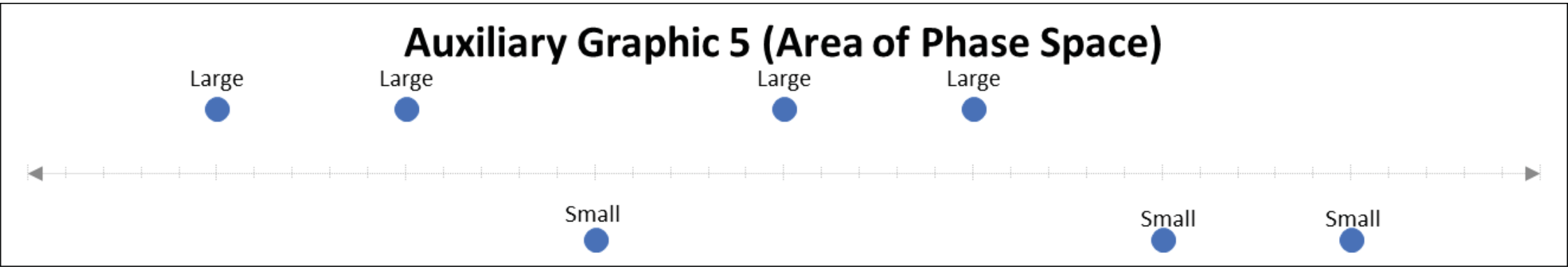
Auxiliary Graphics

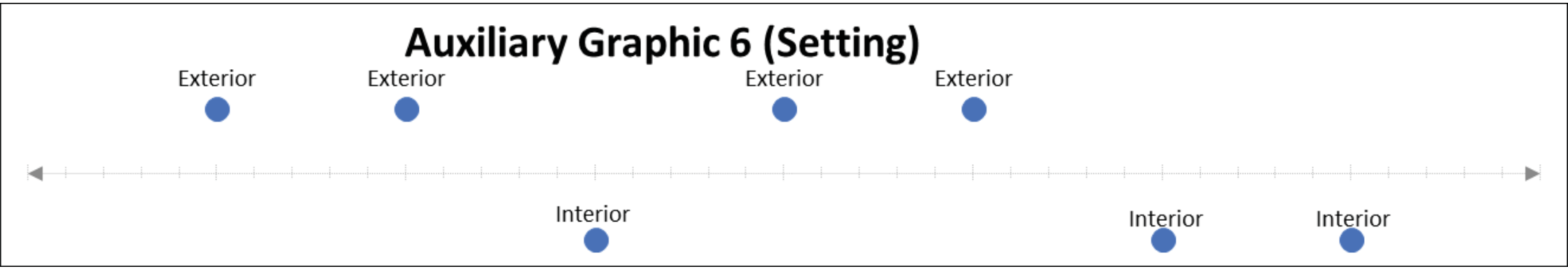

Auxiliary Graphic 1 (Lighting)
∞---------- Time ----------∞
High Key
Low Key
High Contrast


Auxiliary Graphic 2 (Area of Phase Space)
Large
Large
Large
Small
Small
Small
Small

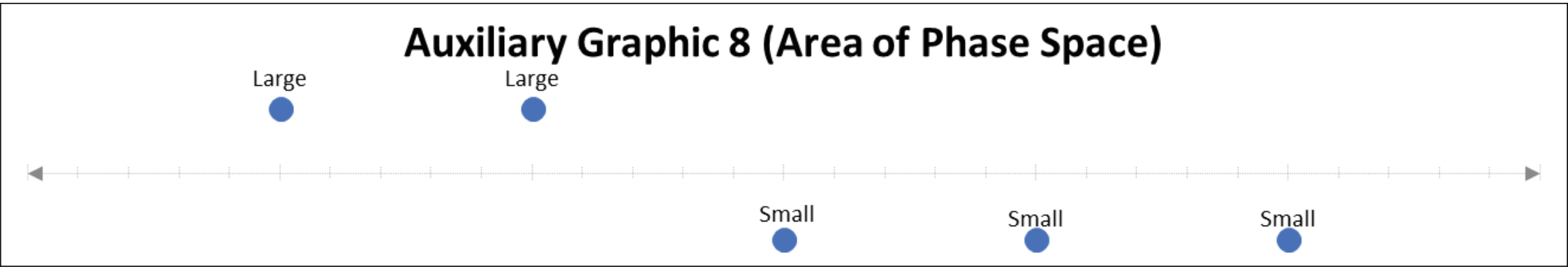

Auxiliary Graphic 3 (Setting)
Exterior
Exterior
Exterior
Interior
Interior
Interior
Interior

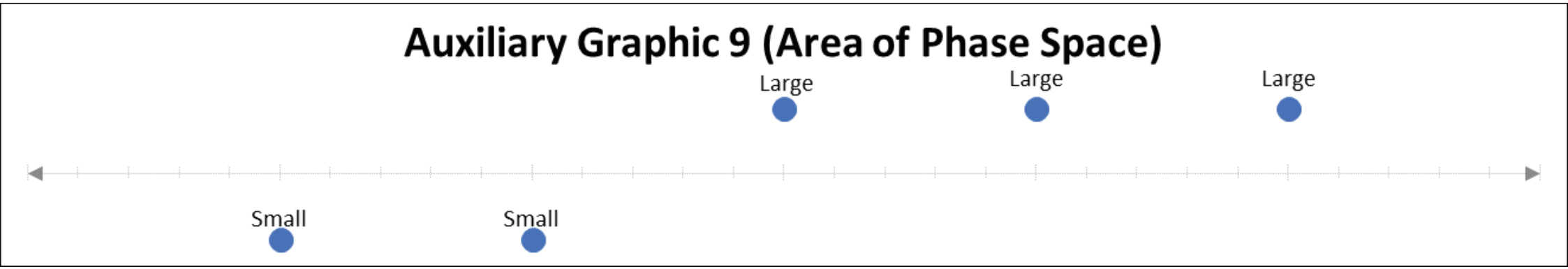

Auxiliary Graphic 4 (Lighting Key)
HK
HK
HK
LK
LK
LK

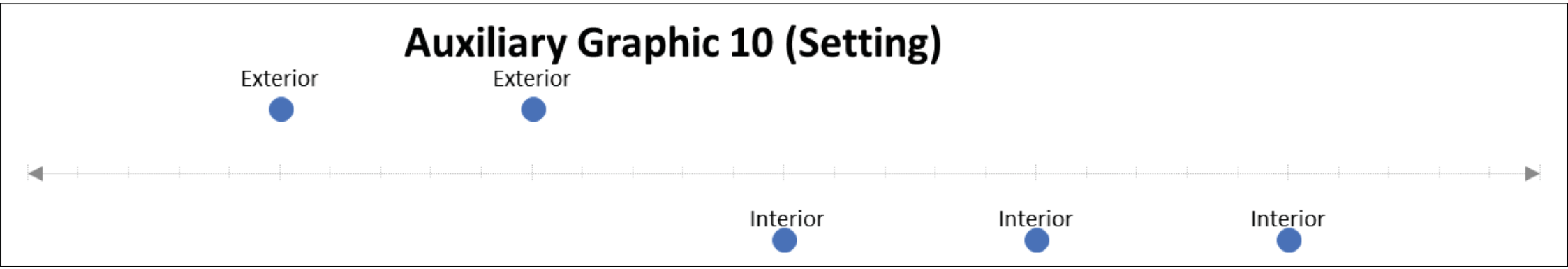

Auxiliary Graphic 5 (Area of Phase Space)
Large
Large
Large
Large
Small
Small
Small


Auxiliary Graphic 6 (Setting)
Exterior
Exterior
Exterior
Exterior
Interior
Interior
Interior

Auxiliary Graphic 7 (Setting)


Auxiliary Graphic 8 (Area of Phase Space)
Large
Large
Small
Small
Small


Auxiliary Graphic 9 (Area of Phase Space)
Large
Large
Large
Small
Small


Auxiliary Graphic 10 (Setting)
Exterior
Exterior
Interior
Interior
Interior